

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Revision date 22-Apr-2025

Revision Number 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 126217
Safety data sheet number 126217
Product Name EXXSOL HEXANE

EC Number 925-292-5

Pure substance/mixture Substance

Contains HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH

Molecular weight 86

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use

- Solvent
- Cleaning agent
- Industrial application
- Fuel additive
- Mining chemicals
- Surface coating
- Rubber products
- Additive for Agrochemicals
- Laboratory chemicals
- Polymers

1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flammable liquids	Category 2 - (H225)
Skin corrosion/irritation	Category 2 - (H315)
Reproductive toxicity	Category 2 - (H361f)
Specific target organ toxicity — single exposure	Category 3 - (H336)
Specific target organ toxicity — repeated exposure	Category 2 - (H373)
Aspiration hazard	Category 1 - (H304)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH

**Signal word**

Danger

Hazard statements

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H336 - May cause drowsiness or dizziness

H361f - Suspected of damaging fertility

H373 - May cause damage to organs through prolonged or repeated exposure

H411 - Toxic to aquatic life with long lasting effects

H225 - Highly flammable liquid and vapour

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor

P331 - Do NOT induce vomiting

Additional information

This product requires child resistant fastenings if supplied to the general public. This product requires tactile warnings if supplied to the general public.

2.3. Other hazards

Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember. Vapours can form explosive mixtures with air. Product is a static accumulator.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
HYDROCARBONS,	90 -	925-292-5	-	Aquatic Chronic 2	-	-	-

C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH -	100%			(H411) Asp. Tox. 1 (H304) STOT RE 2 (H373) Repr. 2 (H361f) Skin Irrit. 2 (H315) STOT SE 3 (H336) Flam. Liq. 2 (H225)			
N-HEXANE 110-54-3	50 - 60%	203-777-6	-	Flam. Liq. 2 (H225) Skin Irrit. 2 (H315) Repr. 2 (H361f) STOT SE 3 (H336) STOT RE 2 (H373) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411)	STOT RE 2 :: C>=5%	-	-
CYCLOHEXANE 110-82-7	0 - 10%	203-806-2 (601-017-00 -1)	-	Flam. Liq. 2 (H225) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) STOT SE 3 (H336) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	1	1

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.
Self-protection of the first aider	Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	May cause damage to organs through prolonged or repeated exposure. Suspected of damaging fertility.
-----------------	---

Inhalation	Coughing and/or wheezing. Difficulty in breathing. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. May cause drowsiness or dizziness.
Dermal	Causes skin irritation.
Ingestion	May be fatal if swallowed and enters airways May result in aspiration into the lungs, causing chemical pneumonia. Risk of lung oedema. Vomiting

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances. Treat symptomatically. Symptoms may be delayed. A patient adversely affected by exposure to this product should not be given adrenaline (epinephrine) or similar heart stimulant since these would increase the risk of cardiac arrhythmias.
-----------------	--

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol resistant foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember. The material is toxic to aquatic life with long lasting effects. Product is a static accumulator. Vapours may form explosive mixtures with air. Runoff to sewer may create fire or explosion hazard.
Hazardous combustion products	Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Cool containers with flooding quantities of water until well after fire is out. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water. Evacuate personnel to safe areas.
--	---

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid contact with skin, eyes and inhalation of vapours. In case of inadequate ventilation wear respiratory protection. Use non sparking handtools and explosion-proof electric equipment. Use personal protection recommended in Section 8. Pregnant women should not work with the product, if there is the least risk of exposure.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Toxic to aquatic life with long lasting effects. Do not allow runoff to sewer, waterway or ground.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Methods for cleaning up Take precautionary measures against static discharges. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use personal protection recommended in Section 8. Pregnant women should not work with the product, if there is the least risk of exposure. Avoid inhalation, ingestion and contact with skin and eyes. Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember. Product is a static accumulator. Vapours may form explosive mixtures with air.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Remove contaminated clothing and protective equipment before entering eating areas. Ensure that eyewash stations and safety showers are close to the workstation location. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials. Protect from direct sunlight. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Avoid contact with: Oxidising agents.

7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	United Kingdom
N-HEXANE 110-54-3	TWA: 20 ppm TWA: 72 mg/m ³
CYCLOHEXANE 110-82-7	TWA: 100 ppm TWA: 350 mg/m ³ STEL: 300 ppm STEL: 1050 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH -		13 mg/kg/day [6]	93 mg/m ³ [6]
CYCLOHEXANE 110-82-7		2016 mg/kg bw/day [4] [6]	700 mg/m ³ [4] [6] 700 mg/m ³ [5] [6] 700 mg/m ³ [4] [7] 700 mg/m ³ [5] [7]

[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH -	6 mg/kg/day [6]	7 mg/kg/day [6]	20 mg/m ³ [6]
CYCLOHEXANE 110-82-7	59.4 mg/kg bw/day [4] [6]	1186 mg/kg bw/day [4] [6]	206 mg/m ³ [4] [6] 206 mg/m ³ [5] [6] 412 mg/m ³ [4] [7] 412 mg/m ³ [5] [7]

[6] Long term.

Predicted No Effect Concentration (PNEC) No information available.

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
CYCLOHEXANE	0.0447 mg/L		0.00447 mg/L		

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
110-82-7					

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
CYCLOHEXANE 110-82-7	3.6 mg/kg	0.36 mg/kg	3.24 mg/L	0.694 mg/kg	

8.2. Exposure controls

Engineering controls

Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof ventilating equipment. Use engineering controls to keep exposures below the OEL or DNEL.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles. Use eye protection according to EN 166.

Hand protection

Wear suitable gloves. Impervious gloves. Gloves must conform to standard EN 374. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Nitrile rubber	0.3 mm	> 8 hours

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots. Clothing should include anti-static overalls, boots and gloves if there is a risk of ignition from static electricity.

Respiratory protection

In case of inadequate ventilation or when the product is heated, use suitable respiratory equipment with gas filter (type A2). EN 136/140/141/145/143/149.

General hygiene considerations

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Remove contaminated clothing and protective equipment before entering eating areas. Ensure that eyewash stations and safety showers are close to the workstation location. Take off immediately all contaminated clothing and wash it before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Colour	Colourless
Odour	Pungent.
Odour threshold	No information available

Property	Values
Melting point / freezing point	< 20
Initial boiling point and boiling range	65 - 70 °C
Flammability	
Flammability Limit in Air	
Upper flammability or explosive limits	8%

Remarks • Method
No information available.
No information available.
No information available.
No information available.

Lower flammability or explosive limits	1%	
Flash point	< -20 °C	CC (closed cup).
Autoignition temperature	> 200 °C	No information available.
Decomposition temperature		No information available.
pH		No information available.
pH (as aqueous solution)		No information available.
Kinematic viscosity	0.4 - 0.7	@ 40 °C.
Dynamic viscosity		No information available.
Water solubility	Insoluble in water	No information available.
Solubility(ies)		No information available.
Partition coefficient	~ 4	No information available.
Vapour pressure	19 - 50 kPa	No information available.
Relative density	0.651 - 0.701 @ 15°C	No information available.
Bulk density	650 - 700 kg/m ³	No information available.
Liquid Density	No information available	No information available.
Relative vapour density	>1	No information available.
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Molecular weight 86

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity The following materials may react with the product:. Oxidising agents.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Vapours are heavier than air and may travel along the floor and in the bottom of containers. Vapours may be ignited by a spark, a hot surface or an ember. Vapours may form explosive mixtures with air.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

10.5. Incompatible materials

Incompatible materials Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information**11.1. Information on toxicological effects**

Information on likely routes of exposure**Product Information**

Inhalation	Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.
Eye contact	May cause slight eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Difficulty in breathing. Coughing and/ or wheezing. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Causes skin irritation. May cause damage to organs through prolonged or repeated exposure. Risk of chemical pneumonia after aspiration. Suspected of damaging fertility.
-----------------	--

Acute toxicity**Numerical measures of toxicity**

No information available

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH	16751 mg/kg (Rat)	3350 mg/kg (Rabbit)	259 mg/l (Rat) 4h
CYCLOHEXANE	6240 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	32.88 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes skin irritation.
----------------------------------	-------------------------

CYCLOHEXANE (110-82-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	Dermal			Mild skin irritant

Serious eye damage/eye irritation	May cause slight eye irritation.
--	----------------------------------

CYCLOHEXANE (110-82-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	eye			Mild eye irritation

Respiratory or skin sensitisation	Based on available data the classification criteria are not met.
--	--

Method	Species	Exposure route	Results
	Mouse	Dermal	Not a skin sensitiser

CYCLOHEXANE (110-82-7)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

Germ cell mutagenicity	Based on available data the classification criteria are not met.
-------------------------------	--

Component Information

HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH (-)

Method	Species	Results
	in vitro Bacteria	Negative
	in vitro Mammal	Negative

CYCLOHEXANE (110-82-7)

Method	Species	Results
OECD 471	in vitro	Negative
OECD 476	in vitro	Negative
OECD 476	in vivo	Negative

Carcinogenicity

Based on available data the classification criteria are not met.

Component Information

CYCLOHEXANE (110-82-7)

Method	Species	Results
	Mouse	Negative

Reproductive toxicity

Suspected of damaging fertility.

Chemical name	United Kingdom
N-HEXANE	Repr. 2

CYCLOHEXANE (110-82-7)

Method	Species	Results
	Rat	Negative

STOT - single exposure

May cause drowsiness or dizziness.

CYCLOHEXANE (110-82-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	human data and animal	Inhalation			May cause drowsiness or dizziness
	human data and animal	Inhalation			Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.
	Professional Judgement	Oral			May cause drowsiness or dizziness

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Component Information

CYCLOHEXANE (110-82-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat	Inhalation	NOAEL 24 mg/L	90 days	Not classified
	Rat	Inhalation	NOAEL 1.7 mg/L	90 days	Not classified
	Rabbit	Inhalation	NOAEL 2.7 mg/L	10 weeks	Not classified
	Mouse	Inhalation	NOAEL 24 mg/L	14 weeks	Not classified
	Rat	Inhalation	NOAEL 8.6 mg/L	30 weeks	Not classified

Aspiration hazard May be fatal if swallowed and enters airways.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.

HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH (-)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Fish	LC50	13.4 mg/L	96 hours	
	Daphnia magna	EC50	23.3 mg/L	48 hours	
	Pseudokirchneriella subcapitata	EC50	55 mg/L	72 hours	
	Oncorhynchus mykiss (rainbow trout)	NOELR	2.99 mg/L	28 days	
	Daphnia magna	NOELR	5.22 mg/L	21 days	

CYCLOHEXANE (110-82-7)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Bacteria toxicity	IC50	97 mg/L	24 hours	
OECD Test No. 203: Fish, Acute Toxicity Test	Fish	LC50	4.53 mg/L	96 hours	Toxic to aquatic life
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	0.9 mg/L	48 hours	Very toxic to aquatic life
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Algae	EC50	3.4 mg/L	72 hours	Toxic to aquatic life

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH (-)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	Biodegradation 98%	Readily biodegradable

CYCLOHEXANE (110-82-7)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	77% Biodegradation	Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation May bioaccumulate.

Bioconcentration factor (BCF) 501

Chemical name	Partition coefficient
CYCLOHEXANE	3.44

12.4. Mobility in soil

Mobility in soil Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH	The substance is not PBT / vPvB
N-HEXANE	The substance is not PBT / vPvB
CYCLOHEXANE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN1208
 14.2 UN proper shipping name HEXANES
 14.3 Transport hazard class(es) 3
 14.4 Packing group II
 14.5 Environmental hazards Yes
 14.6 Special precautions for user
 Special Provisions None
 ERG Code 3H

IMDG

14.1 UN number or ID number UN1208
 UN proper shipping name HEXANES
 14.3 Transport hazard class(es) 3
 14.4 Packing group II
 14.5 Environmental hazards Yes
 14.6 Special precautions for user
 Special Provisions None
 EmS-No F-E, S-D
 14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number UN1208
 14.2 UN proper shipping name HEXANES
 14.3 Transport hazard class(es) 3
 14.4 Packing group II
 14.5 Environmental hazards Yes
 14.6 Special precautions for user
 Special Provisions None
 Classification code F1

ADR

14.1 UN number or ID number	UN1208
14.2 UN proper shipping name	HEXANES
14.3 Transport hazard class(es)	3
14.4 Packing group	II
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	None
Classification code	F1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Product restricted per REACH Annex XVII: 3, 40, 57

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
CYCLOHEXANE - 110-82-7	57. 75.	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note **Not applicable**

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications

Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme

Organisation for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Prepared By J Spenceley

Revision date 22-Apr-2025

**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Manufacture of substance
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC1 - Manufacture of substances ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC15 - Use as laboratory reagent
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC1 - Manufacture of substances
 - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	1.5e+4
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	1.5e+4
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	5.1e+4

Units	kg/d
-------	------

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	300
Release fraction to air from process (initial release prior to RMM)	5.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-4
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	10000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 90%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	During manufacturing no waste of the substance is generated
--------	---

Conditions and measures related to external treatment of waste for disposal

Disposal	During manufacturing no waste of the substance is generated
----------	---

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation

Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Process sampling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers (closed systems)

Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Drain down and flush system prior to equipment break-in or maintenance
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC1 - Manufacture of substances
- ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles**

Predicted No Effect Concentration (PNEC)

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	2.1e+6 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in laboratories
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC10 - Roller application or brushing
 PROC15 - Use as laboratory reagent
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
 - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	1.0e-1
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	1.0e-1
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	5.0e+0
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	0.025
Release fraction to wastewater from process (initial release prior to RMM)	0.02
Release fraction to soil from process (initial release prior to RMM)	0.0001
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use drum pumps or carefully pour from container Put lids on containers immediately after use
Conditions and measures related to	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

personal protection, hygiene and health evaluation	gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle in a fume cupboard or under extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
- ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles**

Predicted No Effect Concentration (PNEC)

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	6.3e+3 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in laboratories
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems
Process category(ies) PROC10 - Roller application or brushing
 PROC15 - Use as laboratory reagent
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	1.0e-1
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	5.0e-5
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	1.4e-4
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
------	--------------------

Emission days	365
Release fraction to air from process (initial release prior to RMM)	0.5
Release fraction to wastewater from process (initial release prior to RMM)	0.5
Release fraction to soil from process (initial release prior to RMM)	0
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)

/limit releases, dispersion and exposure	
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC10 - Roller application or brushing
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle in a fume cupboard or under extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Calculation method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe 1.5e+0 kg/d

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks Available hazard data does not enable the derivation of a DNEL for dermal irritant effects
Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using

onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture	Substance
REACH registration number	01-2119474209-33-XXXX
EC No (EU Index No)	925-292-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford GBR
Non-Emergency Telephone Number	+44 1274 267300 / +44 1274 267306
E-mail address	SDS.EMEA@univarsolutions.com

Section 1 - Title

Title	Distribution of substance
Type	Worker
Main user group	Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies)	ERC1 - Manufacture of substances ERC2 - Formulation of preparations (mixtures) ERC3 - Formulation in materials ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC5 - Industrial use resulting in inclusion into or onto a matrix ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) ERC6b - Industrial use of reactive processing aids ERC6c - Industrial use of monomers for manufacture of thermoplastics ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers ERC7 - Industrial use of substances in closed systems
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC15 - Use as laboratory reagent
Product Name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC1 - Manufacture of substances

- ERC2 - Formulation of preparations (mixtures)
- ERC3 - Formulation in materials
- ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
- ERC5 - Industrial use resulting in inclusion into or onto a matrix
- ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
- ERC6b - Industrial use of reactive processing aids
- ERC6c - Industrial use of monomers for manufacture of thermoplastics
- ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
- ERC7 - Industrial use of substances in closed systems

Amounts used

Type	Fraction of EU tonnage used in region
------	---------------------------------------

Value	0.1
-------	-----

Type	Regional use tonnage
Value	6.0e+2
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	1.2e+0
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	6.0e+1
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	1.0e-3
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-5
Release fraction to soil from process (initial release prior to RMM)	1.0e-5
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 90%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards	Handle substance within a closed system

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Process sampling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle in a fume cupboard or under extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately.

	Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear transfer lines prior to de-coupling
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Drum and small package filling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Fill containers/cans at dedicated fill points supplied with local extract ventilation
Conditions and measures related to	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

personal protection, hygiene and health evaluation	gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Retain drain downs in sealed storage pending disposal or for subsequent recycle
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent/limit releases, dispersion and	Ensure operation is undertaken outdoors

exposure	
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC1 - Manufacture of substances
- ERC2 - Formulation of preparations (mixtures)
- ERC3 - Formulation in materials

- ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
- ERC5 - Industrial use resulting in inclusion into or onto a matrix
- ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
- ERC6b - Industrial use of reactive processing aids
- ERC6c - Industrial use of monomers for manufacture of thermoplastics
- ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
- ERC7 - Industrial use of substances in closed systems

**Predicted No Effect Concentration
(PNEC)**

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	6.5e+5 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	3.1e+2
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	3.1e+2

Units	t(ons)/year
Type	Maximum daily site tonnage
Value	3.1e+3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	100
Release fraction to air from process (initial release prior to RMM)	2.5e-2
Release fraction to wastewater from process (initial release prior to RMM)	2.0e-4
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
-----------------------	--

Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required

	during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Batch process Elevated temperature
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Elevated temperature

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Process sampling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin

	problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Mixing operations (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

personal protection, hygiene and health evaluation	gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Manual
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a predominantly closed system provided with extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Drum and small package filling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Fill containers/cans at dedicated fill points supplied with local extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Drain down and flush system prior to equipment break-in or maintenance
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

Calculation method

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe

6.3e+5 kg/d

Remarks

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic

13 mg/kg bw/d

Worker - inhalative, long-term - systemic

93 mg/m³

Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Coatings
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Product category(ies) PC1 - Adhesives, sealants PC4 - Anti-freeze and de-icing products PC8 - Biocidal Products (e.g. disinfectants, pest control) PC9a - Coatings and paints, thinners, paint removers PC9b - Fillers, putties, plasters, modelling clay PC9c - Finger paints PC15 - Non-metal-surface treatment products PC18 - Ink and toners PC23 - Leather tanning, dye, finishing, impregnation and care products PC24 - Lubricants, greases, release products PC31 - Polishes and wax blends PC34 - Textile dyes, finishing and impregnating products; including bleaches and other processing aids
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	6.5e+0
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	5.0e-4

Type	Annual site tonnage
Value	3.3e-3
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	8.9e-3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365
Release fraction to air from process (initial release prior to RMM)	0.985
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.005

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Control measures to prevent releases

Water	Not applicable as there is no release to wastewater
-------	---

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC1 - Adhesives, sealants
Product (sub) category(ies)	Glues, hobby use
Covers concentrations up to	30%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	9 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	35.73 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC1 - Adhesives, sealants
Product (sub) category(ies)	Glues DIY-use (carpet glue, tile glue, wood parquet glue)
Covers concentrations up to	30%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB

Amounts used	6390 g/event
Exposure duration	Avoid carrying out operation for more than 6 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 1 days per year
Covers skin contact area up to	110 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC1 - Adhesives, sealants
Product (sub) category(ies)	Glue from spray
Covers concentrations up to	30%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	85.05 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Risk management measures	Open windows during application to ensure natural ventilation
Covers skin contact area up to	35.73 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation. Avoid using at a product concentration greater than 8%

Product categories [PC]	PC1 - Adhesives, sealants
Product (sub) category(ies)	Sealant
Covers concentrations up to	30%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	75 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	35.73 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Washing car window
Covers concentrations up to	1%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.5 g/event
Exposure duration	Avoid carrying out operation for more than 1 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Pouring into radiator

Covers concentrations up to	10%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2000 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	428 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Lock de-icer
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	4 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 15 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	214.40 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Laundry and dish washing products
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	15 g/event
Exposure duration	Avoid carrying out operation for more than 30 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	27 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
Covers concentrations up to	15%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	35 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	428 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Waterborne latex wall paint
Covers concentrations up to	1.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2760 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 4 days per year
Covers skin contact area up to	428.75 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Solvent rich, high solid, water borne paint
Covers concentrations up to	27.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	744 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Covers skin contact area up to	428.75 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Aerosol spray can
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	215 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	34 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Removers (paint-, glue-, wall paper-, sealant-remover)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	491 g/event
Exposure duration	Avoid carrying out operation for more than 2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 3 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Fillers and putty
Covers concentrations up to	2%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	85 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 12 days per year
Covers skin contact area up to	35.73 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Plasters and floor equalisers
Covers concentrations up to	2%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	13800 g
Exposure duration	Avoid carrying out operation for more than 2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 12 days per year
Risk management measures	Open windows during application to ensure natural ventilation
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation. Avoid using at a product concentration greater than 1.2%

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Modelling clay
Covers concentrations up to	1%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	1 g/event
Exposure duration	Avoid carrying out operation for more than 6 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	254.40 cm ²

Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9c - Finger paints
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	1.35 g/event
Exposure duration	Avoid carrying out operation for more than 6 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	254.40 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation. Avoid using at a product concentration greater than 1.25%

Product categories [PC]	PC15 - Non-metal-surface treatment products
Product (sub) category(ies)	Waterborne latex wall paint
Covers concentrations up to	1.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2760 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 4 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC15 - Non-metal-surface treatment products
Product (sub) category(ies)	Solvent rich, high solid, water borne paint
Covers concentrations up to	27.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	744 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC15 - Non-metal-surface treatment products
Product (sub) category(ies)	Aerosol spray can
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	215 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 days per year

Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC15 - Non-metal-surface treatment products
Product (sub) category(ies)	Removers (paint-, glue-, wall paper-, sealant-remover)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	491 g/event
Exposure duration	Avoid carrying out operation for more than 2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 3 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC18 - Ink and toners
Covers concentrations up to	10%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	40 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	71.40 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC23 - Leather tanning, dye, finishing, impregnation and care products
Product (sub) category(ies)	Polishes, wax / cream (floor, furniture, shoes)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	56 g/event
Exposure duration	Avoid carrying out operation for more than 1.23 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 29 days per year
Covers skin contact area up to	430 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC23 - Leather tanning, dye, finishing, impregnation and care products
Product (sub) category(ies)	Polishes, spray (furniture, shoes)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	56 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 8 days per year

Covers skin contact area up to	430 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC31 - Polishes and wax blends
Product (sub) category(ies)	Polishes, wax / cream (floor, furniture, shoes)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	142 g/event
Exposure duration	Avoid carrying out operation for more than 1.23 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 29 days per year
Covers skin contact area up to	430 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC31 - Polishes and wax blends
Product (sub) category(ies)	Polishes, spray (furniture, shoes)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	35 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 8 days per year
Covers skin contact area up to	430 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC34 - Textile dyes, finishing and impregnating products; including bleaches and other processing aids
Covers concentrations up to	10%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	115 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Liquids
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2200 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 4 days per year

Covers skin contact area up to	468 cm2
Use in room with a volume of minimum	>34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Pastes
Covers concentrations up to	20%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	34 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 10 days per year
Covers skin contact area up to	468 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Sprays
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	73 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems**

**Predicted No Effect Concentration
(PNEC)**

Calculation method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe 1.0e+2 kg/d

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated
Remarks	Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Coatings
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	8.3e+2
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	8.3e+2
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	4.2e+4
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	0.98
Release fraction to wastewater from process (initial release prior to RMM)	7.0e-4
Release fraction to soil from process (initial release prior to RMM)	0
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 90%
Water	If discharging to domestic sewage treatment plant, no onsite wastewater treatment required Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 82.7% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Film formation
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Mixing operations (closed systems) General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Handle substance within a closed system

control dispersion from source towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application Mixing operations (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC7 - Industrial spraying
Title	Automated task Spraying
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Carry out in a vented booth provided with laminar airflow
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC7 - Industrial spraying
Title	Manual spraying
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear transfer lines prior to de-coupling
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented

Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear transfer lines prior to de-coupling
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required

	during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Fill containers/cans at dedicated fill points supplied with local extract ventilation
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Material transfers Drum/batch transfers Bulk transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to material transfer points and other openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately.

	Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Drain down and flush system prior to equipment break-in or maintenance
Conditions and measures related to	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

personal protection, hygiene and health evaluation	gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear transfer lines prior to de-coupling
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Material transfers Drum/batch transfers Bulk transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Predicted No Effect Concentration (PNEC)

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	1.8e+5 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Coatings
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	4.0e+2
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	2.0e-1
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	5.5e-1
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365
Release fraction to air from process (initial release prior to RMM)	0.98
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.01
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Preparation of material for application
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required

	during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles
-----------------------	--

	(multi-stage and/or significant contact)
Title	Preparation of material for application Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use drum pumps Limit the substance content in the product to 25 %
Conditions and measures related to	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear

personal protection, hygiene and health evaluation	gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual Spraying Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual spraying Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards	Limit the substance content in the product to 50%

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Avoid manual contact with wet work pieces
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Avoid manual contact with wet work pieces
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better

Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Title	Hand application - fingerpaints, pastels, adhesives Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Title	Hand application - fingerpaints, pastels, adhesives Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Preparation of material for application
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 50%
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Use drum pumps
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying

	Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems**

**Predicted No Effect Concentration
(PNEC)**

Calculation method

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe

4.3e+3 kg/d

Remarks

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in cleaning agents
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Product category(ies) PC3 - Air care products PC4 - Anti-freeze and de-icing products PC8 - Biocidal Products (e.g. disinfectants, pest control) PC9a - Coatings and paints, thinners, paint removers PC9b - Fillers, putties, plasters, modelling clay PC9c - Finger paints PC24 - Lubricants, greases, release products PC35 - Washing and cleaning products (including solvent based products) PC38 - Welding and soldering products, flux products
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1
Type	Regional use tonnage
Value	6.5e+0
Units	t(ons)/year
Type	Fraction of regional tonnage used locally
Value	5.0e-4
Type	Annual site tonnage
Value	3.3e-3
Units	t(ons)/year
Type	Maximum daily site tonnage
Value	8.9e-3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365
Release fraction to air from process (initial release prior to RMM)	0.985
Release fraction to wastewater from process (initial release prior to RMM)	0.01
Release fraction to soil from process (initial release prior to RMM)	0.005

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Control measures to prevent releases

Water	Not applicable as there is no release to wastewater
-------	---

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of consumer exposure

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, instant action (aerosol sprays)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.1 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 15 minutes 4 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, instant action (aerosol sprays) Pesticide
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.5 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 15 minutes

	4 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, continuous action (solid and liquid)
Covers concentrations up to	10%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.48 g/event
Exposure duration	1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	35.70 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, continuous action (solid and liquid) Pesticide
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.48 g/event
Exposure duration	1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	35.70 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Washing car window
Covers concentrations up to	1%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	0.5 g/event
Exposure duration	Avoid carrying out operation for more than 1 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	34 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Pouring into radiator
Covers concentrations up to	10%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2000 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day

Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	428 cm ²
Use in room with a volume of minimum	34 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Lock de-icer
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	4 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 15 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	214.40 cm ²
Use in room with a volume of minimum	34 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Laundry and dish washing products
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	15 g/event
Exposure duration	Avoid carrying out operation for more than 30 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	27 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC8 - Biocidal Products (e.g. disinfectants, pest control)
Product (sub) category(ies)	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
Covers concentrations up to	15%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	35 g/event

Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	428 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Waterborne latex wall paint
Covers concentrations up to	1.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2760 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 4 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Solvent rich, high solid, water borne paint
Covers concentrations up to	27.5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	744 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Aerosol spray can
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	215 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 2 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Removers (paint-, glue-, wall paper-, sealant-remover)
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB

Amounts used	491 g/event
Exposure duration	Avoid carrying out operation for more than 2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 3 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Fillers and putty
Covers concentrations up to	2%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	85 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 12 days per year
Covers skin contact area up to	35.73 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Plasters and floor equalisers
Covers concentrations up to	2%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	13800 g
Exposure duration	Avoid carrying out operation for more than 2 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 12 days per year
Risk management measures	Open windows during application to ensure natural ventilation
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation. Avoid using at a product concentration greater than 1.2%

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Modelling clay
Covers concentrations up to	1%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	1 g/event
Exposure duration	1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	254.40 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC9c - Finger paints
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP

Remarks	Substance is complex UVCB
Amounts used	1.35 g/event
Exposure duration	Avoid carrying out operation for more than 6 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	254.40 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation. Avoid using at a product concentration greater than 1.25%

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Product (sub) category(ies)	Laundry and dish washing products
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	15 g/event
Exposure duration	Avoid carrying out operation for more than 30 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Product (sub) category(ies)	Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)
Covers concentrations up to	5%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	27 g/event
Exposure duration	Avoid carrying out operation for more than 20 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	857.5 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC35 - Washing and cleaning products (including solvent based products)
Product (sub) category(ies)	Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
Covers concentrations up to	15%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	35 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 128 days per year
Covers skin contact area up to	428 cm ²
Use in room with a volume of minimum	34 m ³
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC] PC38 - Welding and soldering products, flux products

Covers concentrations up to	20%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	12 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 365 days per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Liquids
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	2200 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 4 days per year
Covers skin contact area up to	468 cm2
Use in room with a volume of minimum	>34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Pastes
Covers concentrations up to	20%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	34 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 10 days per year
Covers skin contact area up to	468 cm2
Use in room with a volume of minimum	34 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Sprays
Covers concentrations up to	50%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Amounts used	73 g/event
Exposure duration	Avoid carrying out operation for more than 10 minutes 1 events per day
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). 6 days per year
Covers skin contact area up to	428.75 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Assumes activities are at room temperature Covers use under typical household ventilation.

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

**Predicted No Effect Concentration
(PNEC)**

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	1.3e+3 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated
Remarks	Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in cleaning agents
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	3.4e+2
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	0.93

Type	Annual site tonnage
Value	1.0e+2
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	5.0e+3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	1.0
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-6
Release fraction to soil from process (initial release prior to RMM)	0
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 70%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Bulk transfers

Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Automated process with (semi) closed systems
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Automated process with (semi) closed systems
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
-----------------------	---

Title	Washing and cleaning products
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
-----------------------	---

Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Cleaning with low-pressure washers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC7 - Industrial spraying
Title	Cleaning with high-pressure washers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)

Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC10 - Roller application or brushing
Title	Manual Surface cleaning
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Automated process with (semi) closed systems
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better

Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Cleaning with low-pressure washers
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC7 - Industrial spraying
Title	Cleaning with high-pressure washers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Manual Surface cleaning
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

**Predicted No Effect Concentration
(PNEC)**

Calculation method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe	4.6e+6 kg/d
Remarks	As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in cleaning agents
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1
Type	Regional use tonnage
Value	2.2e+2
Units	t(ons)/year
Type	Fraction of regional tonnage used locally
Value	1
Type	Annual site tonnage
Value	1.1e-1
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	3.1e-1
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	365
Release fraction to air from process (initial release prior to RMM)	2.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	1.0e-6
Release fraction to soil from process (initial release prior to RMM)	0
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
-----------------------	---

Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Automated process with (semi) closed systems Use in contained systems
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately.

	Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Automated process with (semi) closed systems Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Semi-automated process (e.g. semi-automatic application of floor care and maintenance products)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 25 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Cleaning with low-pressure washers No Spraying
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC10 - Roller application or brushing
Title	Ad hoc manual application via trigger sprays, dipping, etc
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Washing and cleaning products (closed systems) Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent	Ensure operation is undertaken outdoors

/limit releases, dispersion and exposure	
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Equipment cleaning and maintenance Medical Devices
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide extract ventilation to points where emissions occur
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Manual Surface cleaning Spraying
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop

	Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Manual Surface cleaning
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Manual Surface cleaning
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Cleaning with high-pressure washers Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Cleaning with high-pressure washers Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 1 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying

	Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Filling/preparation of equipment from drums or containers.
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Automated process with (semi) closed systems Use in contained systems
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Automated process with (semi) closed systems Drum/batch transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop

	Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Semi-automated process (e.g. semi-automatic application of floor care and maintenance products)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Cleaning with low-pressure washers No Spraying
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC10 - Roller application or brushing
Title	Ad hoc manual application via trigger sprays, dipping, etc
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop

	Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Manual Surface cleaning
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Cleaning with high-pressure washers Indoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC11 - Non industrial spraying
Title	Cleaning with high-pressure washers Outdoor use
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Limit the substance content in the product to 5 %
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear a respirator conforming to EN 140 with Type A filter or better
Organisational measures to prevent/limit releases, dispersion and exposure	Ensure operation is undertaken outdoors
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

**Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems**

Predicted No Effect Concentration (PNEC)

Calculation method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model
Msafe 3.5e+3 kg/d
Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks Available hazard data does not enable the derivation of a DNEL for dermal irritant effects
Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions

outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture Substance
REACH registration number 01-2119474209-33-XXXX
EC No (EU Index No) 925-292-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in polymer processing.
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC6 - Calendaring operations
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC13 - Treatment of articles by dipping and pouring
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC21 - Low energy manipulation of substances bound in materials and/or articles
Product Name HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Fraction of EU tonnage used in region
Value	0.1

Type	Regional use tonnage
Value	9.4e+1
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
------	---

Value	1
-------	---

Type	Annual site tonnage
Value	9.4e+1
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	4.7e+3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	0.75
Release fraction to wastewater from process (initial release prior to RMM)	0
Release fraction to soil from process (initial release prior to RMM)	1.0e-5
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 80%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or
----------	---

	national regulations
--	----------------------

Control of worker exposure	
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Bulk transfers (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Bulk transfers (closed systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Transfer via enclosed lines Use dry break couplings for material transfer
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Bulk weighing

Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Bulk weighing
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Small scale weighing
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Batch process
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up

health evaluation	contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Batch process
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Mixing operations (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Drum and small package filling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Transfer via enclosed lines Use dry break couplings for material transfer
Conditions and measures related to personal protection, hygiene and	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up

health evaluation	contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Title	Injection moulding of articles
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC21 - Low energy manipulation of substances bound in materials and/or articles
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Drain down and flush system prior to equipment break-in or maintenance
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin

	problems that may develop
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC6 - Calendaring operations
Title	Elevated temperature
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Elevated temperature

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Predicted No Effect Concentration (PNEC)

Calculation method The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe 9.2e+6 kg/d

Remarks As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Remarks Available hazard data does not enable the derivation of a DNEL for dermal irritant effects
Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Product Name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Chemical name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Pure substance/mixture	Substance
REACH registration number	01-2119474209-33-XXXX
EC No (EU Index No)	925-292-5
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford GBR
Non-Emergency Telephone Number	+44 1274 267300 / +44 1274 267306
E-mail address	SDS.EMEA@univarsolutions.com

Section 1 - Title

Title	Use in rubber production and processing.
Type	Worker
Main user group	Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies)	ERC1 - Manufacture of substances ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure PROC2 - Use in closed, continuous process with occasional controlled exposure PROC3 - Use in closed batch process (synthesis or formulation) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact) PROC6 - Calendaring operations PROC7 - Industrial spraying PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC13 - Treatment of articles by dipping and pouring PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising PROC15 - Use as laboratory reagent PROC21 - Low energy manipulation of substances bound in materials and/or articles
Product Name	HYDROCARBONS, C6, N-ALKANES, ISOALKANES, CYCLICS, N-HEXANE RICH
Sector(s) of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC1 - Manufacture of substances
 - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
 - ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Amounts used

Type	Fraction of EU tonnage used in region
------	---------------------------------------

Value	0.1
-------	-----

Type	Regional use tonnage
Value	7.9e+1
Units	t(ons)/year

Type	Fraction of regional tonnage used locally
Value	1

Type	Annual site tonnage
Value	7.9e+1
Units	t(ons)/year

Type	Maximum daily site tonnage
Value	4.0e+3
Units	kg/d

Product characteristics

Remarks	Substance is complex UVCB
---------	---------------------------

Other operational conditions of use affecting environmental exposure

Type	Continuous release
Emission days	20
Release fraction to air from process (initial release prior to RMM)	1.0e-2
Release fraction to wastewater from process (initial release prior to RMM)	3.0e-4
Release fraction to soil from process (initial release prior to RMM)	1.0e-4
Remarks	Common practices vary across sites, thus conservative process release estimates used.

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency fraction (offsite; STP)	96%
Removal efficiency (total)	96%
Sludge treatment	Do not apply industrial sludge to natural soils Sludge should be incinerated, contained or reclaimed

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Risk from environmental exposure is driven by freshwater sediment No generation of waste water during process
Additional good practice advice beyond the REACH Chemical Safety Report	Prevent discharge of undissolved substance to or recover from onsite wastewater

Control measures to prevent releases

Air	Treat air emission to provide a typical removal efficiency of 0%
Water	Treat onsite wastewater (prior to receiving water discharge) to provide the required removal efficiency of 0% If discharging to domestic sewage treatment plant, provide the required onsite wastewater removal efficiency of 0% Not applicable as there is no release to wastewater

Conditions and measures related to external recovery of waste

Method	External recovery and recycling of waste should comply with applicable local and/or national regulations
--------	--

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
----------	--

Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up

health evaluation	contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Bulk weighing
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Bulk weighing
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB

Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Small scale weighing
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Batch process
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Batch process
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Mixing operations (open systems)
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Ensure material transfers are under containment or extract ventilation
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Drum and small package filling
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC6 - Calendaring operations
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Title	Pressing uncured rubber blanks
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC6 - Calendaring operations
Title	Vulcanisation Elevated temperature
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by extracted full enclosure for the operation or equipment
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Elevated temperature

Process category(ies)	PROC6 - Calendaring operations
Title	Vulcanisation Elevated temperature Manual
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by extracted full enclosure for the operation or equipment
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Elevated temperature

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Minimise exposure by partial enclosure of the operation or equipment and provide extract ventilation at openings
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC21 - Low energy manipulation of substances bound in materials and/or articles
-----------------------	---

Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Drain down and flush system prior to equipment break-in or maintenance
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Covers concentrations up to	100%

Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Covers concentrations up to	100%
Physical form of product	Liquid, vapour pressure > 10 kPa at STP
Remarks	Substance is complex UVCB
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying
Organisational measures to prevent /limit releases, dispersion and exposure	Provide a good standard of controlled ventilation (10 to 15 air changes per hour)
Remarks	Assumes a good basic standard of occupational hygiene is implemented
Operational conditions	Assumes use at not more than 20°C above ambient temperature, unless stated differently

Section 3 - Exposure estimation

Environmental release category(ies) - ERC1 - Manufacture of substances

- ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

- ERC6d - Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Predicted No Effect Concentration (PNEC)

Calculation method

The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model

Msafe

4.2e+5 kg/d

Remarks

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	13 mg/kg bw/d
Worker - inhalative, long-term - systemic	93 mg/m ³
Consumer - oral, long-term - systemic	6 mg/kg bw/d
Consumer - dermal, long-term - systemic	7 mg/kg bw/d
Consumer - inhalative, long-term - systemic	20 mg/m ³

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	Available hazard data does not enable the derivation of a DNEL for dermal irritant effects Risk management measures are based on qualitative risk characterization Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet.

Predicted exposures are not expected to exceed the DN(M)EL when the risk management measures/operational conditions outlined in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.