



SAFETY DATA SHEET

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

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

1.1. Product identifier

Product name	HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE
Product number	58050
Synonyms; trade names	NAPPAR 6
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8

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

Identified uses	Solvent. For further information, see attached Exposure Scenario.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	58050

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

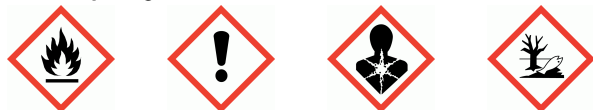
Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	STOT SE 3 - H336 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Chronic 2 - H411

2.2. Label elements

EC number	926-605-8
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Hazard pictograms



Signal word

Danger

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Hazard statements	H225 Highly flammable liquid and vapour. H336 May cause drowsiness or dizziness. H304 May be fatal if swallowed and enters airways. H411 Toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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/ doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE, CYCLOHEXANE, N-HEXANE

2.3. Other hazards

Product is a static accumulator Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

This substance is not classified as PBT or vPvB according to current EU criteria.

May cause eye and respiratory system irritation. Central nervous system depression.

SECTION 3: Composition/information on ingredients

3.1. Substances

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE			100%
CAS number: —	EC number: 926-605-8	REACH registration number: 01-2119486291-36-XXXX	
Classification Flam. Liq. 2 - H225 STOT SE 3 - H336 Asp. Tox. 1 - H304 Aquatic Chronic 2 - H411			

CYCLOHEXANE			75%
CAS number: 110-82-7	EC number: 203-806-2	REACH registration number: 01-2119463273-41-XXXX	
M factor (Acute) = 1	M factor (Chronic) = 1		
Classification Flam. Liq. 2 - H225 Skin Irrit. 2 - H315 STOT SE 3 - H336 Asp. Tox. 1 - H304 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410			

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

N-HEXANE		<5%
CAS number: 110-54-3	EC number: 203-777-6	REACH registration number: 01-2119480412-44-XXXX
Classification 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		

The full text for all hazard statements is displayed in Section 16.

Product name	HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation. If breathing stops, provide artificial respiration. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if symptoms are severe or persist after washing.

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

Inhalation	Gas or vapour in high concentrations may irritate the respiratory system. May cause drowsiness or dizziness. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Drowsiness. Central nervous system depression. Arrhythmia (deviation from normal heart beat).
Ingestion	Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.
Skin contact	Repeated exposure may cause skin dryness or cracking. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
Eye contact	Vapour or spray in the eyes may cause irritation and smarting.

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

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Notes for the doctor No specific recommendations. Treat symptomatically. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Highly flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Containers can burst violently or explode when heated, due to excessive pressure build-up. Toxic to aquatic life with long lasting effects. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO₂). Carbon monoxide (CO). Acrid smoke or fumes. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses. Contain and collect extinguishing water.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Highly flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Keep unnecessary and unprotected personnel away from the spillage. Provide adequate ventilation. Avoid inhalation of vapours and contact with skin and eyes. Take care as floors and other surfaces may become slippery. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Toxic to aquatic life with long lasting effects. Highly flammable liquid and vapour. Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Highly flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. No smoking, sparks, flames or other sources of ignition near spillage. Collect and place in suitable waste disposal containers and seal securely. Clean contaminated objects and areas thoroughly, observing environmental regulations.

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6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle all packages and containers carefully to minimise spills. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of vapours and contact with skin and eyes. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may form explosive mixtures with air. Eliminate all sources of ignition.

Advice on general occupational hygiene Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Earth container and transfer equipment to eliminate sparks from static electricity. Storage tanks and other containers must be earthed. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Avoid excessive heat for prolonged periods of time. Container must be kept tightly closed when not in use. Loosen closure cautiously before opening. Suitable container materials: Carbon steel. Stainless steel. Polytetrafluoroethylene (PTFE, Teflon). Polyethylene. Unsuitable container materials: Butyl rubber. Rubber (natural, latex). Store away from the following materials: Oxidising materials.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Hydrocarbons.

Vapour

400 mg/m³. 115 ppm, TWA, Manuf. data

CYCLOHEXANE

Long-term exposure limit (8-hour TWA): WEL 100 ppm 350 mg/m³

Short-term exposure limit (15-minute): WEL 300 ppm 1050 mg/m³

N-HEXANE

Long-term exposure limit (8-hour TWA): WEL 20 ppm 72 mg/m³

WEL = Workplace Exposure Limit

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

DNEL

Industry - Dermal; systemic effects: 13964 mg/kg/day

Industry - Inhalation; systemic effects: 5306 mg/m³

Consumer - Dermal; systemic effects: 1377 mg/kg/day

Consumer - Inhalation; systemic effects: 1131 mg/m³

Consumer - Oral; systemic effects: 1301 mg/kg/day

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

CYCLOHEXANE (CAS: 110-82-7)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Workers - Inhalation; Long term systemic effects: 700 mg/m³ Workers - Inhalation; Short term systemic effects: 700 mg/m³ Workers - Inhalation; Long term local effects: 700 mg/m³ Workers - Inhalation; Long term local effects: 700 mg/m³ Workers - Dermal; Long term systemic effects: 2016 mg/kg/day General population - Inhalation; Long term systemic effects: 206 mg/m³ General population - Inhalation; Short term systemic effects: 412 mg/m³ General population - Inhalation; Long term local effects: 206 mg/m³ General population - Inhalation; Short term local effects: 412 mg/m³ General population - Dermal; Long term systemic effects: 1186 mg/kg/day General population - Oral; Long term systemic effects: 59.4 mg/kg/day
PNEC	- Fresh water; 0.207 mg/l - marine water; 0.207 mg/l - Intermittent release; 0.207 mg/l - STP; 3.24 mg/l - Sediment (Freshwater); 3.627 mg/kg - Sediment (Marinewater); 3.627 mg/kg - Soil; 2.99 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Avoid inhalation of vapours and contact with skin and eyes.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Protective gloves should have a minimum thickness of 0.38 mm. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact. Wear fire/flammable resistant/retardant clothing. For the greatest protection, clothing should include anti-static overalls, boots and gloves.

Hygiene measures

Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.

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Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Gas filter, type A2. EN 136/140/141/145/143/149
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Slight.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	78 - 83°C @ 760 mm Hg
Flash point	-19°C Calculation method.
Evaporation rate	9.1 (butyl acetate = 1) Calculation method.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 1.2 % Upper flammable/explosive limit: 8.0 %
Other flammability	No information available.
Vapour pressure	11 kPa @ 20°C Calculation method.
Vapour density	2.9 @ 101 kPa Calculation method.
Relative density	0.76 @ 15°C Calculation method.
Bulk density	760 kg/m ³
Solubility(ies)	Immiscible with water.
Partition coefficient	log Pow: < 4 Estimated value.
Auto-ignition temperature	274°C
Decomposition Temperature	No information available.
Viscosity	0.76 cSt @ 40°C 0.93 cSt @ 20°C Calculation method.
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Molecular weight	85
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SECTION 10: Stability and reactivity

10.1. Reactivity

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Reactivity No test data specifically related to reactivity available for this product or its ingredients. See the other subsections of this section for further details.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Highly flammable liquid and vapour. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.
Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time. Containers can burst violently or explode when heated, due to excessive pressure build-up. Take precautionary measures against static discharge.

10.5. Incompatible materials

Materials to avoid Avoid contact with the following materials: Oxidising materials.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Carbon monoxide (CO). Carbon dioxide (CO₂). Toxic gases or vapours. Acid smoke or fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 3350 mg/kg, Oral, Rat OECD 401 Read-across data.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rabbit OECD 402 Read-across data.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ (4h) > 20 mg/l, Inhalation, Vapour, Rat OECD 403 Read-across data.

Skin corrosion/irritation

Skin corrosion/irritation Slightly irritating. Prolonged contact may cause dryness of the skin. Read-across data. OECD 404

Serious eye damage/irritation

Serious eye damage/irritation Slightly irritating. May cause temporary eye irritation. OECD 405 Read-across data.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Not sensitising. OECD 406 Read-across data.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties. Read-across data.

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity Carcinogenicity in humans is not expected. Read-across data.

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction. Read-across data.

Reproductive toxicity - development This substance has no evidence of toxicity to reproduction. Read-across data.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure. OCED 413 Read-across data.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

Inhalation

Gas or vapour in high concentrations may irritate the respiratory system. May cause drowsiness or dizziness. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression. Arrhythmia (deviation from normal heart beat).

Ingestion

Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

Skin contact

Repeated exposure may cause skin dryness or cracking. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact

Vapour or spray in the eyes may cause irritation and smarting.

Toxicological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 3350 mg/kg, Oral, Rat OECD 401 Read-across data.

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rabbit OECD 402 Read-across data.

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 20.0

Species Rat

Notes (inhalation LC₅₀) LC₅₀ (4h) > 20 mg/l, Inhalation, Vapour, Rat OECD 403 Read-across data.

ATE inhalation (vapours mg/l) 20.0

Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met. Slightly irritating.

Respiratory sensitisation

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.
Not sensitising. OECD 406 Read-across data.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.
This substance has no evidence of mutagenic properties. Read-across data.

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met. Carcinogenicity in humans is not expected. Read-across data.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.
This substance has no evidence of toxicity to reproduction. Read-across data.

Reproductive toxicity - development Based on available data the classification criteria are not met.
This substance has no evidence of toxicity to reproduction. Read-across data.

Specific target organ toxicity - single exposure

STOT - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.
Not classified as a specific target organ toxicant after repeated exposure. Read-across data.

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways.

Inhalation

Gas or vapour in high concentrations may irritate the respiratory system. May cause drowsiness or dizziness. Vapours in high concentrations are anaesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression. Arrhythmia (deviation from normal heart beat).

Ingestion

Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Development of symptoms may be delayed for 24 to 48 hours. Keep affected person under observation.

Skin contact

Repeated exposure may cause skin dryness or cracking. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact

Vapour or spray in the eyes may cause irritation and smarting.

CYCLOHEXANE

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >5000 mg/kg, Oral, Rat

Acute toxicity - dermal

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Notes (dermal LD ₅₀)	LD ₅₀ >2000 mg/kg, Dermal, Rabbit
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC ₅₀ vapours mg/l)	32.88
Species	Rat
ATE inhalation (vapours mg/l)	32.88
<u>Skin corrosion/irritation</u>	
Animal data	Irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	No information available.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No information available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause drowsiness or dizziness.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No information available.
<u>Aspiration hazard</u>	
Aspiration hazard	May be fatal if swallowed and enters airways.
Inhalation	Vapours may cause drowsiness and dizziness. Vapours may irritate throat/respiratory system.
Ingestion	May be fatal if swallowed and enters airways. Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
Skin contact	Irritating to skin.
Eye contact	Vapour or spray in the eyes may cause irritation and smarting.

N-HEXANE

Acute toxicity - oral

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Acute toxicity oral (LD ₅₀ mg/kg)	16,000.0
Species	Rat
Notes (oral LD ₅₀)	OECD 401
ATE oral (mg/kg)	16,000.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD ₅₀)	LD ₅₀ >3350 mg/kg, Dermal, Rabbit OECD 402
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC ₅₀ vapours mg/l)	259.3
Species	Rat
Notes (inhalation LC ₅₀)	OECD 403
ATE inhalation (vapours mg/l)	259.3
<u>Skin corrosion/irritation</u>	
Animal data	Irritating to skin.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Suspected of damaging fertility.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause drowsiness or dizziness.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	May be fatal if swallowed and enters airways.
<u>Inhalation</u>	
Inhalation	May cause drowsiness or dizziness.

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Ingestion	May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
Skin contact	Irritating to skin.
Eye contact	May cause temporary eye irritation.

SECTION 12: Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Ecotoxicity Toxic to aquatic life with long lasting effects.

CYCLOHEXANE

Ecotoxicity Very toxic to aquatic life with long lasting effects.

N-HEXANE

Ecotoxicity Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 12 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 3.0 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 72 hours: 30 mg/l, Pseudokirchneriella subcapitata
ErC₅₀, 72 hour: 55 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 day: 0.17 mg/l, Daphnia magna
Read-across data.
LOEC, 21 day: 0.32 mg/l, Daphnia magna
Read-across data.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Toxicity Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 12 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 3.0 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 72 hours: 30 mg/l, Pseudokirchneriella subcapitata
ErC₅₀, 72 hour: 55 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Chronic toxicity - aquatic invertebrates	NOEC, 21 day: 0.17 mg/l, Daphnia magna
	Read-across data.
	LOEC, 21 day: 0.32 mg/l, Daphnia magna
	Read-across data.

CYCLOHEXANE

Toxicity	Very toxic to aquatic organisms.
<u>Acute aquatic toxicity</u>	
LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	EC ₅₀ , 96 hours: 4.53 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.9 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 72 hours: 3.4 mg/l, Selenastrum capricornutum
<u>Chronic aquatic toxicity</u>	
M factor (Chronic)	1

N-HEXANE

<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	No information available.

12.2. Persistence and degradability

Persistence and degradability	The product is readily biodegradable.
Phototransformation	Transformation due to photolysis not expected to be significant.
Stability (hydrolysis)	Transformation due to hydrolysis not expected to be significant
Biodegradation	Water - Degradation 98%: 28 days

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Persistence and degradability	The product is readily biodegradable.
Phototransformation	Transformation due to photolysis not expected to be significant.
Stability (hydrolysis)	Transformation due to hydrolysis not expected to be significant
Biodegradation	Water - Degradation 98%: 28 days

CYCLOHEXANE

Persistence and degradability	The substance is readily biodegradable.
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N-HEXANE

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Persistence and degradability There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: < 4 Estimated value.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Bioaccumulative potential Potentially bioaccumulating.

Partition coefficient log Pow: > 4 Estimated value.

CYCLOHEXANE

Bioaccumulative potential BCF: 167,

Partition coefficient : 3.44

N-HEXANE

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

12.4. Mobility in soil

Mobility The product is insoluble in water and will spread on the water surface. The product contains organic solvents which will evaporate easily from all surfaces.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Mobility The product is insoluble in water and will spread on the water surface. The product contains organic solvents which will evaporate easily from all surfaces.

CYCLOHEXANE

Mobility No information available.

N-HEXANE

Mobility No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

CYCLOHEXANE

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

N-HEXANE

Results of PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.

HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE

Other adverse effects Not determined.

CYCLOHEXANE

Other adverse effects Not determined.

N-HEXANE

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Empty containers or liners may retain some product residues and hence be potentially hazardous. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 3295

UN No. (IMDG) 3295

UN No. (ICAO) 3295

UN No. (ADN) 3295

14.2. UN proper shipping name

Proper shipping name (ADR/RID) HYDROCARBONS, LIQUID, N.O.S. (CONTAINS HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE, CYCLOHEXANE)

Proper shipping name (IMDG) HYDROCARBONS, LIQUID, N.O.S. (CONTAINS HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE, CYCLOHEXANE)

Proper shipping name (ICAO) HYDROCARBONS, LIQUID, N.O.S. (CONTAINS HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE, CYCLOHEXANE)

Proper shipping name (ADN) HYDROCARBONS, LIQUID, N.O.S. (CONTAINS HYDROCARBONS C6 - C7 ISOALKANES, CYCLICS <5% N - HEXANE, CYCLOHEXANE)

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

Taiwan - TCSI

All the ingredients are listed or exempt.

SECTION 16: Other information

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

05/12/2019

Version number

2.001

Supersedes date

05/12/2019

SDS number

58050

HYDROCARBONS, C6 - C7, ISOALKANES, CYCLICS, <5% N-HEXANE

SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. 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. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects.
Signature	Jitendra Panchal



Exposure scenario Manufacture of substance

Identification

Product name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture of substance
Process scope	Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals SU10 Formulation [mixing] of preparations and/or re-packaging

Environment

Environmental release category	ERC1 Manufacture of the substance ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
SPERC	ESVOC SPERC 1.1.v1

Worker

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15 Use as laboratory reagent.
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Manufacture of substance

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Annual site tonnage: 1600 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 16000 kg
 Regional use tonnage: 1600 tonnes/year

Frequency and duration of use

Emission days: 100 days/year
 Continuous release.

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 0.05
Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.0003
Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution Local freshwater dilution factor: 10
 Local marine water dilution factor: 100

Risk management measures

Good practice Common practices vary across sites, thus conservative process release estimates used.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 96%
 Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96%
 Assumed domestic sewage treatment plant flow: 10000 m³/day
 Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 1600000 kg/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 90%.
Water Risk from environmental exposure is driven by freshwater sediment. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment During manufacturing no waste of the substance is generated.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure > 10 kPa at STP
Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Manufacture of substance

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Avoid heat, flames and other sources of ignition.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance. Do not induce vomiting.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

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

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

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

Risk Management Measures are based on qualitative risk characterisation.

4. Guidance to check compliance with the exposure scenario (Health 1)

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.



Exposure scenario Distribution of substance

Identification

Product name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Distribution of substance
Process scope	Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of the substance ERC2 Formulation into mixture ERC3 Formulation into solid matrix ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC5 Use at industrial site leading to inclusion into/onto article ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article) ERC6c Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article) ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article) ERC7 Use of functional fluid at industrial site
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SPERC	ESVOC SPERC 1.1b.v1
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Worker

Distribution of substance

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
	PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Annual site tonnage: 0.045 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 0.002
 Maximum daily site tonnage: 2.3 kg
 Regional use tonnage: 23 tonnes/year

Frequency and duration of use

Emission days: 20 days/year
 Continuous release.

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.001
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.00001
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.00001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10
	Local marine water dilution factor: 100

Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96%
	Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96%
	Assumed domestic sewage treatment plant flow: 2000 m ³ /day
	Maximum allowable site tonnage (Msafe), based on release following total wastewater treatment removal: 78000 kg/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 90%.
Water	Risk from environmental exposure is driven by fresh water. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Distribution of substance

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Avoid heat, flames and other sources of ignition.
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Risk management measures

Additional advice	Do not ingest. If swallowed, then seek immediate medical assistance. Do not induce vomiting. Assumes a good basic standard of occupational hygiene is implemented.
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3. Exposure estimation (Environment 1)

Assessment method	The Hydrocarbon Block Method has been used to calculate environmental exposure with the Petrorisk model.
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4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

Distribution of substance

Assessment method

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

Risk Management Measures are based on qualitative risk characterisation.

4. Guidance to check compliance with the exposure scenario (Health 1)

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.



Exposure scenario

Formulation and (re)packing of substances and mixtures

Identification

Product name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Formulation and (re)packing of substances and mixtures
Process scope	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
<u>Environment</u>	
Environmental release category	ERC2 Formulation into mixture
SPERC	ESVOC SPERC 2.2.v1
<u>Worker</u>	

Formulation and (re)packing of substances and mixtures

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Annual site tonnage: 41 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 4100 kg
 Regional use tonnage: 41 tonnes/year

Frequency and duration of use

Emission days: 10 days/year
 Continuous release.

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.025
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.0002
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96% Assumed domestic sewage treatment plant flow: 2000 m³/day Maximum allowable site tonnage (M_{safe}), based on release following total wastewater treatment removal: 490000 kg/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
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Formulation and (re)packing of substances and mixtures

Water Risk from environmental exposure is driven by freshwater sediment. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.

Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure > 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Store substance within a closed system.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Avoid heat, flames and other sources of ignition.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance. Do not induce vomiting. Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

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

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

Formulation and (re)packing of substances and mixtures

3. Exposure estimation (Health 1)

Assessment method

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

Risk Management Measures are based on qualitative risk characterisation.

4. Guidance to check compliance with the exposure scenario (Health 1)

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.



Exposure scenario

Use in laboratories - Industrial

Identification

Product name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in laboratories - Industrial
Process scope	Use of the substance within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC2 Formulation into mixture ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<u>Worker</u>	
Process category	PROC10 Roller application or brushing PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Annual site tonnage: 0.1 tonnes
Fraction of EU tonnage used in region: 0.1
Fraction of Regional tonnage used locally: 1
Maximum daily site tonnage: 5 kg
Regional use tonnage: 0.1 tonnes/year

Frequency and duration of use

Emission days: 20 days/year
Continuous release.

Use in laboratories - Industrial

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.025
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.02
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.0001

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96% Assumed domestic sewage treatment plant flow: 2000 m ³ /day Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 4900 kg/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	Risk from environmental exposure is driven by freshwater sediment. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Use in laboratories - Industrial

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Avoid heat, flames and other sources of ignition.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance. Do not induce vomiting.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

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

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

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

Risk Management Measures are based on qualitative risk characterisation.

4. Guidance to check compliance with the exposure scenario (Health 1)

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.



Exposure scenario

Use in laboratories - Professional

Identification

Product name	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
REACH registration number	01-2119486291-36-XXXX
EC number	926-605-8
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in laboratories - Professional
Process scope	Use of small quantities within laboratory settings, including material transfers and equipment cleaning.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
SPERC	ESVOC SPERC 8.17.v1
<u>Worker</u>	
Process category	PROC10 Roller application or brushing PROC15 Use as laboratory reagent.

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Substance is complex UVCB. Predominantly hydrophobic.

Amounts used

Annual site tonnage: 0.00005 tonnes
 Fraction of EU tonnage used in region: 0.1
 Fraction of Regional tonnage used locally: 1
 Maximum daily site tonnage: 0.00014 kg
 Regional use tonnage: 0.1 tonnes/year

Frequency and duration of use

Use in laboratories - Professional

Emission days: 365 days/year
Continuous release.

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.5
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.5
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0

Environmental factors not influenced by risk management measures

Dilution	Local freshwater dilution factor: 10 Local marine water dilution factor: 100
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Risk management measures

Good practice	Common practices vary across sites, thus conservative process release estimates used.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 96% Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 96% Assumed domestic sewage treatment plant flow: 2000 m ³ /day Maximum allowable site tonnage (M _{safe}), based on release following total wastewater treatment removal: 4.6 kg/day

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air	Treat air emission to provide a typical removal efficiency of 0%.
Water	Risk from environmental exposure is driven by fresh water. No wastewater treatment required. Prevent discharge of undissolved substance to or recover from onsite waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils. Sludge should be incinerated, contained or reclaimed.
Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 kPa at STP
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Use in laboratories - Professional

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Avoid heat, flames and other sources of ignition.

Risk management measures

Additional advice Do not ingest. If swallowed, then seek immediate medical assistance. Do not induce vomiting.
Assumes a good basic standard of occupational hygiene is implemented.

3. Exposure estimation (Environment 1)

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

4. Guidance to check compliance with the exposure scenario (Environment 1)

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 onsite technologies, either alone or in combination. Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>).

3. Exposure estimation (Health 1)

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

Risk Management Measures are based on qualitative risk characterisation.

4. Guidance to check compliance with the exposure scenario (Health 1)

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.