

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

Supersedes date 06-Nov-2025

Revision date 06-Nov-2025

Revision Number 6.02

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

1.1. Product identifier

Product Code(s)	22887
Safety data sheet number	22887
Product Name	ACETIC ACID 94-99%
Index No	607-002-00-6
EC Number	200-580-7
CAS No	64-19-7
Synonyms	VINEGAR ACID, ETHANOIC ACID, METHANE CARBOXYLIC ACID, ACETIC ACID 98/100% BE, ACETIC ACID 98/100% TG, ACETIC ACID MIN 99% TN, ACETIC ACID 99% TECH TW, ACETIC ACID PURE 99.8% MIN SOL, ACETIC ACID 99.85% CP, ACETIC ACID 99.9 % NCB, ACETIC ACID PURE 99.9% SOL, ACETIC ACID PURE 99.9%, ACETIC ACID PURE 99.9% SOL CS, ACETIC ACID 99/100%, ACETIC ACID 99/100% BP, ACETIC ACID 99/100% OLN, ACETIC ACID 99/100% OLEON, ACETIC ACID 99/100% TECH, ACETIC ACID 99/100% GMP+, ACETIC ACID GLACIAL, FE-1, ACETIC ACID 98/100% BE BLK, REUSED ACETIC ACID 95%, REGEN ACETIC ACID 95%, GLACIAL ACETIC ACID 99.85%
Pure substance/mixture	Substance

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

Recommended use	Industrial application Distribution of substance Formulation of preparations (mixtures) Intermediate Cleaning agent Oil field drilling and production operations Use in laboratories Water treatment chemical Professional use Additive for Agrochemicals Consumer use Chemical intermediate Process Additive Hydraulic oil Manufacture of substance Formulation & (re)packing of substances and mixtures. 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
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 3 - (H226)
Skin corrosion/irritation	Category 1 Sub-category A - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)

2.2. Label elements**Signal word**

Danger

Hazard statements

H314 - Causes severe skin burns and eye damage

H226 - Flammable liquid and vapour

Precautionary statements

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

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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

P315 - Get immediate medical advice/attention

2.3. Other hazards

No information available.

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)
ACETIC ACID ...% 64-19-7	94-99%	200-580-7 (607-002-00-6)	UK-01-7556755848-3-XXXX	Flam. Liq. 3 (H226) Skin Corr. 1A (H314)	Eye Irrit. 2 :: 10%<=C<25% Skin Corr. 1A :: C>=90% Skin Corr. 1B :: 25%<=C<90% Skin Irrit. 2 :: 10%<=C<25%	-	-

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	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration.
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. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Remove material from skin immediately.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Remove all sources of ignition. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

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

Symptoms	Burning sensation. May cause eye and respiratory irritation.
Inhalation	In high concentrations, vapours may irritate throat and respiratory system and cause coughing.
Eyes	Burning sensation. Corrosive to the eyes and may cause severe damage including

	blindness. May cause permanent damage if eye is not immediately irrigated. Causes severe burns.
Dermal	Burning sensation. Skin corrosion/irritation. Causes severe burns.
Ingestion	Can burn mouth, throat, and stomach Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation May irritate and cause stomach pain, vomiting and diarrhoea.

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

Note to doctors	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO2). 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. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. Take precautionary measures against static discharge.
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. Do not allow runoff to sewer, waterway or ground. Cool containers with flooding quantities of water until well after fire is out.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. See section 8 for more information. 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. In case of inadequate ventilation wear respiratory protection. Vapours may form explosive mixtures with air.
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. Should not be released into the environment.

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. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Acidic. Remove and wash contaminated clothing and gloves, including the inside, before re-use. After cleaning, flush away traces with water.

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 Use personal protection equipment. Avoid breathing vapours or mists. 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 according to package label instructions. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash it before reuse. Take precautionary measures against static discharge. Vapours may form explosive mixtures with air.

General hygiene considerations Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Ensure that eyewash stations and safety showers are close to the workstation location.

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. Store in accordance with the particular national regulations. Protect from moisture. Store away from other materials. See section 10 for more information. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof.

Packaging materials stainless steel. Aluminium. Glass.

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

Chemical name	United Kingdom
ACETIC ACID ...% 64-19-7	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 20 ppm STEL: 50 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
ACETIC ACID ...% 64-19-7			25 mg/m ³ [5] [6] 25 mg/m ³ [5] [7]

[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
ACETIC ACID ...% 64-19-7			25 mg/m ³ [5] [6] 25 mg/m ³ [5] [7]

[5] Local health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
ACETIC ACID ...% 64-19-7	3.058 mg/L	30.58 mg/L	0.3058 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
ACETIC ACID ...% 64-19-7	11.36 mg/kg sediment dw	1.136 mg/kg sediment dw	85 mg/L	0.47 mg/kg soil dw	85 mg/l

8.2. Exposure controls**Engineering controls**

Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash hands after handling. Take action to prevent static discharges. Use engineering controls to keep exposures below the OEL or DNEL.

Personal protective equipment**Eye/face protection**

Tight sealing safety goggles. Face protection shield. Use eye protection according to EN ISO 16321-1.

Hand protection

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 must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Butyl rubber	0.3-0.8 mm	>480 minutes
Short term	Fluorine	0.7 mm	>30 minutes
Short term	Neoprene gloves	0.5 mm	>30 minutes
Short term	PVC	0.7 mm	>30 minutes
Short term	Nitrile rubber	0.4 mm	>30 minutes

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection

Type A. full face mask (DIN EN 136).

In case of inadequate ventilation wear respiratory protection.

General hygiene considerations

Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Ensure that eyewash stations and safety showers are close to the workstation location.

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. Irritating. Stinging.
Odour threshold	1 ppm

Property	Values
Melting point / freezing point	17 °C
Initial boiling point and boiling range	118 °C
Flammability	
Flammability Limit in Air	
Upper flammability or explosive limits	19.9%
Lower flammability or explosive limits	4%
Flash point	39 °C
Autoignition temperature	463 °C

Remarks • Method

@ 1,013 hPa.
No information available.
No information available.

Closed cup.

Decomposition temperature		No information available.
pH		
pH (as aqueous solution)	2.4	solution (6.0 %).
Kinematic viscosity	1.02 mm ² /s	
Dynamic viscosity	1.056 mPa s	@ 25 °C.
Water solubility	602.9 g/l	
Solubility(ies)	soluble in Ethanol Acetone Ether Glycerine. Insoluble Carbon disulphide	
Partition coefficient	-0.170	
Vapour pressure	20.8 hPa	@ 25 °C.
Relative density	1.045	
Bulk density		No information available
Liquid Density	.	No information available
Relative vapour density	2.1	. (air = 1).
Particle characteristics		Not applicable.
Particle Size	.	
Particle Size Distribution	.	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

Evaporation rate	0.97
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	Strong bases. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air.
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10.2. Chemical stability

Stability	Hygroscopic.
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Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Can react briskly with oxidisers - danger of explosion. Can vigorously react with alkalis (lyes) - danger of explosion.
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10.4. Conditions to avoid

Conditions to avoid	Heat, flames and sparks. static discharge (electrostatic discharge). Exposure to air or moisture over prolonged periods.
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10.5. Incompatible materials

Incompatible materials	Bases. Oxidising agents. Peroxides. Amines. Metals. Alcohols. Water. Combustible material.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Thermal decomposition can lead to release of irritating and toxic gases and vapours. Carbon oxides.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Inhalation of vapours in high concentration may cause irritation of respiratory system.
Eye contact	Causes severe burns. Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Causes severe burns. Corrosive.
Ingestion	Causes corrosive burns of the mouth, gullet and gastrointestinal tract if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing.
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Acute toxicity

Numerical measures of toxicity

Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
ACETIC ACID ...%	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/l (Rat) 4h

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

Skin corrosion/irritation	Causes severe burns.
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Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal			Corrosive
	Human evidence	Dermal			Corrosive

Serious eye damage/eye irritation	Causes severe burns.
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Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405	Rabbit	eye			Causes serious eye damage
	Human evidence	eye			Corrosive

Respiratory or skin sensitisation	Based on available data the classification criteria are not met.
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Method	Species	Exposure route	Results
		Dermal	No sensitisation responses were observed

Germ cell mutagenicity	Based on available data the classification criteria are not met.
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Product Information		
Method	Species	Results
OECD 471	Ames Test	Negative
OECD 473	in vitro	Negative
	in vivo	Negative

Carcinogenicity Based on available data the classification criteria are not met.

Method	Species	Results
	Mouse	Not Carcinogenic
	Mouse	Carcinogenic

Reproductive toxicity Based on available data the classification criteria are not met.

STOT - single exposure Based on available data the classification criteria are not met.

STOT - repeated exposure Based on available data the classification criteria are not met.

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat	Oral	290 mg/kg bw/d	8 weeks	Negative
	Mouse	Dermal	30 mg	32 weeks	Negative
	Mouse	Dermal	10 mg	32 weeks, 3 times a week	Mortality

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

ACETIC ACID ...% (64-19-7)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Daphnia magna	EC50	65 mg/L	48 hours	
	Fish	LC50	79 mg/L	96 hours	

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Bioconcentration factor (BCF) 3.16

Component Information

Chemical name	Partition coefficient
ACETIC ACID ...%	-0.17

12.4. Mobility in soil

Mobility in soil Soluble in water.

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
ACETIC ACID ...%	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 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	UN2789
14.2 UN proper shipping name	ACETIC ACID SOLUTION
14.3 Transport hazard class(es)	8
Subsidiary hazard class	3
14.4 Packing group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
ERG Code	8F

IMDG

14.1 UN number or ID number	UN2789
14.2 UN proper shipping name	ACETIC ACID, GLACIAL
14.3 Transport hazard class(es)	8
Subsidiary hazard class	3
14.4 Packing group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
EmS-No	F-E, S-C
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN2789
14.2 UN proper shipping name	ACETIC ACID, GLACIAL
14.3 Transport hazard class(es)	8
Subsidiary hazard class	3
14.4 Packing group	II
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None

Classification code CF1

ADR

14.1 UN number or ID number UN2789
 14.2 UN proper shipping name ACETIC ACID, GLACIAL
 14.3 Transport hazard class(es) 8
 Subsidiary hazard class 3
 14.4 Packing group II
 14.5 Environmental hazards No
 14.6 Special precautions for user
 Special Provisions None
 Classification code CF1
 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).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
ACETIC ACID ...% - 64-19-7	3	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

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)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
ACETIC ACID ...% - 64-19-7	Simplified procedure - Category A

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/NDSL - 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****Full text of H-Statements referred to under section 3**

H226 - Flammable liquid and vapour
 H314 - Causes severe skin burns and eye damage

Legend

SVHC: Substances of Very High Concern for Authorisation:
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

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 **SDS sections updated 1 8**

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
Reproductive toxicity	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 Forth
Supersedes date	06-Nov-2025
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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]

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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)
Specific Environmental Release Category ESVOC SpERC 2.2.v1
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 Code(s) 66881
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)
Specific Environmental Release Category - ESVOC SpERC 2.2.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	82190
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa

Temperature associated to vapour pressure	25 C
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Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0.025
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.6%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and	Assumes a good basic standard of occupational hygiene is implemented

exposure	
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent	Assumes a good basic standard of occupational hygiene is implemented

/limit releases, dispersion and exposure	
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category - ESVOC SpERC 2.2.v1

**Predicted No Effect Concentration
(PNEC)**

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l

Marine sediment 1.136 mg/kg
Soil 0.478 mg/kg
Impact on Sewage Treatment 85 mg/l

Calculation method Used EUSES model
Remarks Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Marine sediment		0.062
Marine water		0.062
Soil		0.148
Freshwater sediment		0.066
STP: Sewage Treatment Plant		0.009
Freshwater		0.066

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local 25 mg/m³
Worker - inhalative, short-term - local 25 mg/m³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.007
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.140
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.020
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.400
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.040
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.801
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local		0.050
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, short-term - local		0.200
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.010
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.200

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.025
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.500
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local		0.050
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, short-term - local		0.200
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - local		0.050
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, short-term - local	0.200	
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local		0.014
PROC15 - Use as laboratory reagent	Worker - inhalative, short-term - local		0.280

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 as an intermediate or Process Additive
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category ESVOC SpERC 6.1a.v1 ESVOC SpERC 2.2.v1
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 Code(s) 66881
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) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

- ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - ESVOC SpERC 6.1a.v1

- ESVOC SpERC 2.2.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	1746000
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to wastewater from process (initial release prior to RMM)	0.0001
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use

Assumes process temperature up to	40 C
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Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Exposure duration	Avoid carrying out activities involving exposure for more than 15 minutes
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 basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

- ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - ESVOC SpERC 6.1a.v1

- ESVOC SpERC 2.2.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg

Soil 0.478 mg/kg
Impact on Sewage Treatment 85 mg/l

Calculation method Used EUSES model
Remarks Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater sediment		0.095
STP: Sewage Treatment Plant		0.13
Freshwater		0.095
Marine sediment		0.091
Marine water		0.091
Soil		0.243

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local 25 mg/m³
Worker - inhalative, short-term - local 25 mg/m³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.010
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.007
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.140
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.020
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.400
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.040
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.801
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.030
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.600
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.013
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.500
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term		0.014

	- local		
PROC15 - Use as laboratory reagent	Worker - inhalative, short-term - local		0.280

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 (Industrial)
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
 ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category ESVOC SpERC 4.4a.v1
 ESVOC SpERC 6.1a.v1
 ESVOC SpERC 2.2.v1
Process category(ies) 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 Code(s) 66881
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
 - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 - ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category - ESVOC SpERC 4.4a.v1
- ESVOC SpERC 6.1a.v1
- ESVOC SpERC 2.2.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	5000
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0.3
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) or Ensure operation is undertaken outdoors
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Covers indoor and outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and	Wear a respirator providing a minimum efficiency of 95% Wear suitable gloves tested to EN 374 Efficiency of at least 80%

health evaluation	
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%

health evaluation	
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

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

- ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

- ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - ESVOC SpERC 4.4a.v1

- ESVOC SpERC 6.1a.v1

- ESVOC SpERC 2.2.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
STP: Sewage Treatment Plant		0.009
Freshwater sediment		0.06
Freshwater		0.06
Marine sediment		0.056
Marine water		0.056
Soil		0.022

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.150
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.600
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.014
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.280

PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.120
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.801
PROC7 - Industrial spraying	Worker - inhalative, long-term - local		0.035
PROC7 - Industrial spraying	Worker - inhalative, short-term - local		0.701
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.010
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.200
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.025
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.500
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local		0.014
PROC10 - Roller application or brushing	Worker - inhalative, short-term - local		0.280
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local		0.050
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, short-term - local		0.200

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 (Professional)
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.11a.v1
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
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring

Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.11a.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	2
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0.00001
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
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Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	1%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No other specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.11a.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method Remarks

Used EUSES model
Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater		0.059
STP: Sewage Treatment Plant		0.009
Freshwater sediment		0.059
Soil		0.016
Marine sediment		0.055
Marine water		0.055

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.084
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.560
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.035
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.701
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.024
PROC8a - Transfer of substance or preparation (charging/discharging)	Worker - inhalative, short-term - local		0.160

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	Worker - inhalative, long-term - local		0.030
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.200
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local		0.105
PROC11 - Non industrial spraying	Worker - inhalative, short-term - local		0.701
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local		0.040
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, short-term - local		0.801

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Consumer Use in cleaning agents
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.4c.v1
Product category(ies) PC3 - Air care products PC4 - Anti-freeze and de-icing products PC8 - Biocidal Products (e.g. disinfectants, pest control) PC9 - Coatings and paints, fillers, putties, thinners PC15 - Non-metal-surface treatment products PC24 - Lubricants, greases, release products PC35 - Washing and cleaning products (including solvent based products)

Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.4c.v1

Amounts used

Type	Msite
Value	2
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of consumer exposure

Product categories [PC]	PC38 - Welding and soldering products, flux products
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	12 g/event
Exposure duration	1 hr/event
Indoor/Outdoor use	Indoor use

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	0.02 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	35 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

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	0.05 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	27 g/event
Exposure duration	0.33 hr/event
Indoor/Outdoor use	Indoor use

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	0.05 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	15 g/event
Exposure duration	1 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Sprays
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid

Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	73 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Pastes
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	34 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC24 - Lubricants, greases, release products
Product (sub) category(ies)	Liquids
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	2200 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9c - Finger paints
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	1380 g/event
Exposure duration	8 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Modelling clay
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	1380 g/event
Exposure duration	8 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Plasters and floor equalisers
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	1380 g/event

Exposure duration	2 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Product (sub) category(ies)	Fillers and putty
Covers concentrations up to	0.02 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	85 g/event
Exposure duration	4 hr/event
Indoor/Outdoor use	Indoor use

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	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	491 g/event
Exposure duration	2 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Aerosol spray can
Covers concentrations up to	0.05 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	215 g/event
Exposure duration	0.33 hr/event
Indoor/Outdoor use	Indoor use

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	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	744 g/event
Exposure duration	2.2 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Waterborne latex wall paint
Covers concentrations up to	0.02 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	2760 g/event
Exposure duration	2.2 hr/event
Indoor/Outdoor use	Indoor use

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	0.02 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	35 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

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	0.05 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	27 g/event
Exposure duration	0.33 hr/event
Indoor/Outdoor use	Indoor use

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	0.05 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	15 g/event
Exposure duration	0.5 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Lock de-icer
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	4 g/event
Exposure duration	0.25 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC4 - Anti-freeze and de-icing products
Product (sub) category(ies)	Pouring into radiator
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	2000 g/event
Exposure duration	0.17 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC4 - Anti-freeze and de-icing products
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Product (sub) category(ies)	Washing car window
Covers concentrations up to	0.01 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	0.5 g/event
Exposure duration	0.02 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, continuous action (solid and liquid)
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	0.48 g/event
Exposure duration	8 hr/event
Indoor/Outdoor use	Indoor use

Product categories [PC]	PC3 - Air care products
Product (sub) category(ies)	Air care, instant action (aerosol sprays)
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Amounts used	0.1 g/event
Exposure duration	0.25 hr/event
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.4c.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Soil		0.016
Freshwater sediment		0.059
Marine sediment		0.055
Freshwater		0.059
STP: Sewage Treatment Plant		0.009
Marine water		0.055

Derived No Effect Level (DNEL):

Inhalation

25 mg/m³

Calculation method

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

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC38 - Welding and soldering products, flux products	Consumer - inhalative		0.300
PC35 - Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)	Consumer - inhalative		0.953
PC35 - Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)	Consumer - inhalative		0.451
PC35 - Washing and cleaning products (including solvent based products) Laundry and dish washing products	Consumer - inhalative		0.938
PC24 - Lubricants, greases, release products Sprays	Consumer - inhalative		0.009
PC24 - Lubricants, greases, release products Pastes	Consumer - inhalative		0.062
PC24 - Lubricants, greases, release products Liquids	Consumer - inhalative		0.200
PC9c - Finger paints	Consumer - inhalative		0.476
PC9b - Fillers, putties, plasters, modelling clay Modelling clay	Consumer - inhalative		0.095
PC9b - Fillers, putties, plasters, modelling clay Plasters and floor equalisers	Consumer - inhalative		0.150
PC9b - Fillers, putties, plasters, modelling clay Fillers and putty	Consumer - inhalative		0.040
PC9a - Coatings and paints, thinners, paint removers Removers (paint-, glue-, wall paper-, sealant-remover)	Consumer - inhalative		0.893
PC9a - Coatings and paints, thinners, paint removers Aerosol spray can	Consumer - inhalative		0.180
PC9a - Coatings and paints, thinners, paint removers Solvent rich, high solid, water borne paint	Consumer - inhalative		0.128
PC9a - Coatings and paints, thinners, paint removers Waterborne latex wall paint	Consumer - inhalative		0.071
PC35 - Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)	Consumer - inhalative		0.953
PC35 - Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass	Consumer - inhalative		0.113

cleaners, carpet cleaners, metal cleaners)			
PC35 - Washing and cleaning products (including solvent based products) Laundry and dish washing products	Consumer - inhalative		0.058
PC4 - Anti-freeze and de-icing products Lock de-icer	Consumer - inhalative		0.696
PC4 - Anti-freeze and de-icing products Pouring into radiator	Consumer - inhalative		0.182
PC4 - Anti-freeze and de-icing products Washing car window	Consumer - inhalative		0.009
PC3 - Air care products Air care, continuous action (solid and liquid)	Consumer - inhalative		0.017
PC3 - Air care products Air care, instant action (aerosol sprays)	Consumer - inhalative		0.070

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Oil field drilling and production operations
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
 ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category ESVOC SpERC 4.5a.v1
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

Product Code(s) 66881
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
 - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
 - ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - ESVOC SpERC 4.5a.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	5000
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0.07
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Use with local exhaust ventilation Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
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Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No other specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to
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	vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

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

- ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

- ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - ESVOC SpERC 4.5a.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater		0.783
Soil		0.111
Freshwater sediment		0.783
Marine water		0.779
STP: Sewage Treatment Plant		0.260
Marine sediment		0.779

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no	Worker - inhalative, long-term		0.001

likelihood of exposure	- local		
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.050
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.200
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.025
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, short-term - local		0.168
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.050
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, short-term - local		0.336
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.010
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.200
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.025
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.500

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 agrochemicals Professional
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.4b.v1
Category
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 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
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring

Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.4b.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	2
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to wastewater from	0.01
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wide dispersive use	
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No other specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
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Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No other specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Use with local exhaust ventilation Efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 (5 to 10 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use

Assumes process temperature up to	40 C
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Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of controlled ventilation (5 to 10 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No other specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 95% Wear suitable gloves tested to EN 374 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	5%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 (5 to 10 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.4b.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Marine sediment		0.055
Freshwater		0.059
Soil		0.016
Freshwater sediment		0.059
STP: Sewage Treatment Plant		0.009
Marine water		0.055

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.084
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.560
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.090
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, short-term - local		0.600
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.054
PROC4 - Use in batch and other	Worker - inhalative, short-term		0.360

process (synthesis) where opportunity for exposure arises	- local		
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.042
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.841
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.090
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.360
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local		0.060
PROC10 - Roller application or brushing	Worker - inhalative, short-term - local		0.240
PROC11 - Non industrial spraying	Worker - inhalative, long-term - local		0.150
PROC11 - Non industrial spraying	Worker - inhalative, short-term - local		0.600
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local		0.060
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, short-term - local		0.240

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Consumer Use in agrochemicals
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.11b.v1
Product category(ies) PC12 - Fertilisers PC27 - Plant protection products
Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.11b.v1

Amounts used

Type	Msite
Value	2
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of consumer exposure

Product categories [PC]	PC12 - Fertilisers
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Product categories [PC]	PC27 - Plant protection products
Covers concentrations up to	0.1 g/g
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Exposure duration	120 minutes per day
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.11b.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method Used EUSES model

Remarks Risk from environmental exposure is driven by freshwater

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Marine sediment		0.055
STP: Sewage Treatment Plant		0.009
Freshwater sediment		0.059
Marine water		0.055
Soil		0.016
Freshwater		0.059

Derived No Effect Level (DNEL):

Inhalation	25 mg/m ³
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Calculation method The ECETOC TRA tool has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio
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			(RCR)
PC12 - Fertilisers	Consumer - inhalative		0.000
PC27 - Plant protection products	Consumer - inhalative		0.000

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Industrial Laboratory activities
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) PROC10 - Roller application or brushing
 PROC15 - Use as laboratory reagent
Product Code(s) 66881
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

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	100
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to wastewater from process (initial release prior to RMM)	0.02
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m ³ /d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Marine water		0.059
Freshwater		0.063
Soil		0.017
STP: Sewage Treatment Plant		0.009
Freshwater sediment		0.063
Marine sediment		0.059

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local
Worker - inhalative, short-term - local

25 mg/m³
25 mg/m³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local		0.030
PROC10 - Roller application or brushing	Worker - inhalative, short-term - local		0.600
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local		0.014
PROC15 - Use as laboratory reagent	Worker - inhalative, short-term - local		0.280

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Professional Laboratory activities
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.17.v1
Process category(ies) PROC10 - Roller application or brushing
 PROC15 - Use as laboratory reagent
Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.17.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	2
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from wide dispersive use (regional only)	0.5
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%

Sludge treatment	Controlled application to agricultural soil
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Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure	
Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90% In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.17.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater sediment		0.061
Soil		0.017
Marine water		0.057
Marine sediment		0.057
Freshwater		0.061
STP: Sewage Treatment Plant		0.009

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local		0.040
PROC10 - Roller application or brushing	Worker - inhalative, short-term - local		0.801
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local		0.200
PROC15 - Use as laboratory reagent	Worker - inhalative, short-term - local		0.801

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 process water treatment, use in sewage water treatment (Industrial)
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
Specific Environmental Release Category ESVOC SpERC 3.22a.v1
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
 PROC13 - Treatment of articles by dipping and pouring
Product Code(s) 66881
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

Specific Environmental Release Category - ESVOC SpERC 3.22a.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	100
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to wastewater from process (initial release prior to RMM)	0.95
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.6%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and	Assumes a good basic standard of occupational hygiene is implemented

exposure	
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	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	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

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

Specific Environmental Release Category - ESVOC SpERC 3.22a.v1

**Predicted No Effect Concentration
(PNEC)**

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg

Marine water 0.3058 mg/l
Marine sediment 1.136 mg/kg
Soil 0.478 mg/kg
Impact on Sewage Treatment 85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater sediment Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater sediment		0.256
Marine sediment		0.252
Soil		0.042
Marine water		0.252
Freshwater		0.255
STP: Sewage Treatment Plant		0.071

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

25 mg/m³

Worker - inhalative, short-term - local

25 mg/m³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.003
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.050
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.200
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.014
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.280
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.120
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.801
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.030
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.600
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.015
PROC8b - Transfer of substance or preparation (charging/discharging)	Worker - inhalative, short-term - local		0.300

from/to vessels/large containers at dedicated facilities			
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local		0.007
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, short-term - local		0.140

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
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 Bradford
 GBR

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

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Water Treatment Professional use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.22b.v1
Process category(ies) PROC1 - Use in closed process, no likelihood of 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
 PROC13 - Treatment of articles by dipping and pouring

Product Code(s) 66881
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) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.22b.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	0.002
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to wastewater from process (initial release prior to RMM)	0.89
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.36%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour) Use with local exhaust ventilation Efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
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Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 Efficiency of at least 80% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 80%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour) Use with local exhaust ventilation Efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Efficiency of at least 90% Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.22b.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater
Risk from environmental exposure is driven by freshwater sediment
Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Marine sediment		0.059
Freshwater sediment		0.062
Freshwater		0.062
STP: Sewage Treatment Plant		0.009
Soil		0.017
Marine water		0.059

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio
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			(RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.001
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.140
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.014
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.280
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.030
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.560
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.050
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.200
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - local		0.084
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, short-term - local		0.560

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC3 - Formulation in materials
Specific Environmental Release Category ESVOC SpERC 1.1b.v1
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 Code(s) 66881
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) - ERC3 - Formulation in materials
Specific Environmental Release Category - ESVOC SpERC 1.1b.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	2,192,000
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0.001
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.6%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	No specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
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Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Use with local exhaust ventilation Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa

Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC3 - Formulation in materials
Specific Environmental Release Category - ESVOC SpERC 1.1b.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method

Used EUSES model

Remarks

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
STP: Sewage Treatment Plant		0.016
Marine sediment		0.101
Soil		0.036
Freshwater sediment		0.104
Marine water		0.101
Freshwater		0.104

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local

25 mg/m³

Worker - inhalative, short-term - local

25 mg/m³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.007
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.140
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local		0.020
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.400
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.040
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.801
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.030
PROC8a - Transfer of substance or preparation (charging/discharging)	Worker - inhalative, short-term - local		0.200

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	Worker - inhalative, long-term - local		0.025
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.500
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local		0.050
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, short-term - local		0.200
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local		0.014
PROC15 - Use as laboratory reagent	Worker - inhalative, short-term - local		0.280

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name Acetic acid
Pure substance/mixture Substance
REACH registration number 01-2119475328-30-XXXX
CAS No 64-19-7
EC No (EU Index No) 200-580-7
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 Hydraulic Fracturing Industrial use
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
Specific Environmental Release Category ESVOC SpERC 1.1b.v1
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

Product Code(s) 66881
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

Specific Environmental Release Category - ESVOC SpERC 1.1b.v1

Covers concentrations up to 100%
Amounts used

Type	Msafe
Value	222,000
Units	kg/d

Product characteristics

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C

Other operational conditions of use affecting environmental exposure

Release fraction to air from process	0.001
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(initial release prior to RMM)	
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.6%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18,000 m3/d
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Control measures to prevent releases

Water	Ensure all waste water is collected and treated via a WWTP
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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
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	No specific measures identified
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%

Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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 basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	40 C

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	20.79 hPa
Temperature associated to vapour pressure	25 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	20.79 hPa
Temperature associated to vapour pressure	25 C
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	In case of inadequate ventilation wear respiratory protection Efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor use
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

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

Specific Environmental Release Category - ESVOC SpERC 1.1b.v1

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method Remarks

Used EUSES model

Risk from environmental exposure is driven by freshwater Risk from environmental exposure is driven by soil

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater		0.059
Freshwater sediment		0.059
Soil		0.017
Marine sediment		0.055
STP: Sewage Treatment Plant		0.009
Marine water		0.055

Derived No Effect Level (DNEL):

Worker - inhalative, long-term - local	25 mg/m ³
Worker - inhalative, short-term - local	25 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local		0.001
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, short-term - local		0.004
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local		0.050
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, short-term - local		0.200
PROC3 - Use in closed batch process	Worker - inhalative, long-term		0.100

(synthesis or formulation)	- local		
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, short-term - local		0.400
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local		0.140
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, short-term - local		0.560
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local		0.175
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, short-term - local		0.701
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local		0.175
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, short-term - local		0.701

Section 4 - Guidance to check compliance with the exposure scenario

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

Chemical name	Acetic acid
Pure substance/mixture	Substance
REACH registration number	01-2119475328-30-XXXX
CAS No	64-19-7
EC No (EU Index No)	200-580-7
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	pH Neutralisation in Textile dyes and impregnating products
Type	Consumer
Main user group	Consumer uses: Private households (= general public = consumers)
Environmental release category(ies)	ERC9a - Wide dispersive indoor use of substances in closed systems
Product category(ies)	PC34 - Textile dyes, finishing and impregnating products
Product Code(s)	66881
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) - ERC9a - Wide dispersive indoor use of substances in closed systems

Section 3 - Exposure estimation

Environmental release category(ies) - ERC9a - Wide dispersive indoor use of substances in closed systems

Predicted No Effect Concentration (PNEC)

Freshwater	3.058 mg/l
Freshwater sediment	11.36 mg/kg
Marine water	0.3058 mg/l
Marine sediment	1.136 mg/kg
Soil	0.478 mg/kg
Impact on Sewage Treatment	85 mg/l

Calculation method	Used EUSES model
Remarks	Risk from environmental exposure is driven by freshwater

Derived No Effect Level (DNEL):

Inhalation	25 mg/m ³
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Calculation method	The Consexpo model has been used to estimate consumer exposures unless otherwise
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indicated

Section 4 - Guidance to check compliance with the exposure scenario

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org/en/reach-for-industries-libraries.html>). Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.