

2.3 Other hazards Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information: No data available.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
Acetic acid	1 - <3%	64-19-7	200-580-7	01-2119475328-30-XXXX	No data available.	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Classification	Notes
Acetic acid	Skin Corr.: 1A: H314 Flam. Liq.: 3: H226	Note B

CLP: Regulation No. 1272/2008.

SECTION 4: First aid measures

General: CAUTION! First aid personnel must be aware of own risk during rescue!

4.1 Description of first aid measures

Inhalation: Move to fresh air.

Eye contact: Rinse immediately with plenty of water.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Ingestion: Rinse mouth thoroughly.

4.2 Most important symptoms and effects, both acute and delayed: See section 11 of the SDS for additional information on health hazards.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: See section 11 of the SDS for additional information on health hazards.

Treatment: Get medical attention if symptoms occur.

SECTION 5: Firefighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
5.1 Extinguishing media	
Suitable extinguishing media:	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
5.2 Special hazards arising from the substance or mixture:	During fire, gases hazardous to health may be formed.
5.3 Advice for firefighters	
Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Put on protective equipment before entering danger area.
6.2 Environmental Precautions:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.
6.3 Methods and material for containment and cleaning up:	Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent.
6.4 Reference to other sections:	For personal protection see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
7.2 Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials.
7.3 Specific end use(s):	Reserved for industrial and professional use.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

Chemical name	type	Exposure Limit Values	Source
Acetic acid	TWA	10 ppm 25 mg/m3	Ireland. Occupational Exposure Limits (2011)
	STEL	15 ppm 37 mg/m3	Ireland. Occupational Exposure Limits (2011)
	TWA	10 ppm 25 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU (12 2009)

Biological Limit Values

None.

DNEL-Values

Critical component	type	Route of Exposure		Remarks
Ammonium thiosulphate, Amonium thiosulphate	General population	Inhalation	104 mg/m3	Repeated dose toxicity
	General population	Oral	13 mg/kg	Repeated dose toxicity
	Workers	Inhalation	350 mg/m3	Repeated dose toxicity
Sodium sulphite	General population	Oral	11 mg/kg	Repeated dose toxicity
	General population	Inhalation	88 mg/m3	Repeated dose toxicity
	Workers	Inhalation	298 mg/m3	Repeated dose toxicity
Sodium acetate	General population	Dermal	6 mg/kg	Repeated dose toxicity
	General population	Oral	6 mg/kg	Repeated dose toxicity
	Workers	Inhalation	1057.9 mg/m3	Repeated dose toxicity
	General population	Dermal	36 mg/kg	Repeated dose toxicity
	Workers	Inhalation	6347.36 mg/m3	Repeated dose toxicity
	General population	Inhalation	521.73 mg/m3	Repeated dose toxicity
	Workers	Dermal	72 mg/kg	Repeated dose toxicity
	Workers	Dermal	12 mg/kg	Repeated dose toxicity
	General population	Inhalation	3103.45 mg/m3	Repeated dose toxicity
Acetic acid	General population	Oral	36 mg/kg	Repeated dose toxicity
	General population	Inhalation	25 mg/m3	Irritating to respiratory system.
	Workers	Inhalation	25 mg/m3	Irritating to respiratory system.
	Workers	Inhalation	25 mg/m3	Irritating to respiratory system.
	General population	Inhalation	25 mg/m3	Irritating to respiratory system.

PNEC-Values

Critical component	Environmental compartment		Remarks
Ammonium thiosulphate, Amonium thiosulphate	Aquatic (marine water)	0.078 mg/l	
	Aquatic (freshwater)	0.78 mg/l	
	Sewage treatment plant	100.1 mg/l	
Sodium sulphite	Aquatic (marine water)	0.13 mg/l	
	Aquatic (freshwater)	1.33 mg/l	

	Sewage treatment plant	99.9 mg/l	
Sodium acetate	Sewage treatment plant	0.72 g/l	
	freshwater sediment	0.000402 mg/kg	
	Aquatic (marine water)	0.01 mg/l	
	soil	0.000402 mg/kg	
	Aquatic (freshwater)	0.1 mg/l	
	Marine sediments	0.00004 mg/kg	
Acetic acid	Aquatic (marine water)	0.3058 mg/l	
	Sewage treatment plant	85 mg/l	
	soil	0.47 mg/kg	
	Aquatic (intermit. releases)	30.58 mg/l	
	Aquatic (freshwater)	3.058 mg/l	
	Marine sediments	1.136 mg/kg	
	freshwater sediment	11.36 mg/kg	

8.2 Exposure controls

Appropriate Engineering Controls: Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Follow training instructions when handling this material.

Eye/face protection: Safety goggles. EN 166.

Skin protection

Hand Protection: Protective gloves should be used if there is a risk of direct contact or splash.(EN374) Chemical resistant gloves required for prolonged or repeated contact. Butyl rubber. Glove thickness: > 0.70 mm Break-through time: > 480 min Risk of splashes: Nitrile rubber. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Other: Safety clothes : long sleeved clothing EN13688

Respiratory Protection: In case of inadequate ventilation use suitable respirator (EN14387). Seek advice from local supervisor.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Environmental Controls: Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Smell of sulphur dioxide
Odor Threshold:	No data available.
pH:	5.6 (25 °C)
Freezing point:	< 0 °C
Boiling Point:	> 100 °C
Flash Point:	No data available.
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density (air=1):	No data available.
Relative density:	1.1410 (20 °C)
Solubility(ies)	
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

9.2 Other information

VOC Content: EC Directive 2004/42: 12 g/l ~1.2 % (calculated)

SECTION 10: Stability and reactivity

10.1 Reactivity:	Material is stable under normal conditions.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Not known.

- 10.4 Conditions to avoid:** Avoid heat or contamination.
- 10.5 Incompatible Materials:** None known.
- 10.6 Hazardous Decomposition Products:** By heating and fire, harmful vapors/gases may be formed.

SECTION 11: Toxicological information

Information on likely routes of exposure

- Inhalation:** Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
- Ingestion:** May be ingested by accident. Ingestion may cause irritation and malaise.
- Skin Contact:** Moderately irritating to skin with prolonged exposure.
- Eye contact:** Eye contact is possible and should be avoided.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s)

Acetic acid LD 50 (Rat): 3,310 mg/kg

Dermal

Product: ATEmix: 88,333.33 mg/kg

Specified substance(s)

Acetic acid LD 50 (Rabbit): 1,060 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s)

Acetic acid LC 50 (Rat, 4 h): 11.4 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s)

Acetic acid NOAEL (Rat(Male), Oral, 8 Weeks): 290 mg/kg

Skin Corrosion/Irritation:

Product: No data available.

Specified substance(s)

Acetic acid Strongly Irritating

Serious Eye Damage/Eye Irritation:

Product: No data available.

Specified substance(s)

Acetic acid in vivo (Rabbit, 1 d): Category 1

Respiratory or Skin Sensitization:

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s)

Acetic acid No data available.

In vivo

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

Acetic acid No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s)

Acetic acid LC 50 (Danio rerio, 96 h): > 1,000 mg/l (Static) experimental result

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Acetic acid EC 50 (48 h): > 300.82 mg/l (Static) experimental result
NOAEL (48 h): 2,500 mg/l (Static) experimental result

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Acetic acid No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)
Acetic acid No data available.

12.2 Persistence and Degradability

Biodegradation
Product: No data available.

Specified substance(s)
Acetic acid No data available.

BOD/COD Ratio
Product No data available.

Specified substance(s)
Acetic acid No data available.

12.3 Bioaccumulative Potential

Product: No data available.

Specified substance(s)
Acetic acid No data available.

12.4 Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Acetic acid No data available.

12.5 Results of PBT and vPvB assessment: Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria
Acetic acid No data available.

12.6 Other Adverse Effects: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: Disposal considerations (including disposal of contaminated containers or packaging) Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Disposal methods: Wash before disposal. Dispose to controlled facilities.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

ADR

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

RID

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

IMDG

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

IATA

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: not applicable.

SECTION 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals: none

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:
none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

none

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

Directive 96/82/EC (Seveso III): on the control of major accident hazards involving dangerous substances:

Chemical name	CAS-No.	Concentration
Acetic acid	64-19-7	1.0 - 10%

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:
none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
Acetic acid	64-19-7	1.0 - 10%

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Revision Information: Not relevant. Not relevant.

Key literature references and sources for data: Safety Data Sheet from the supplier.
ECHA

Wording of the H-statements in section 2 and 3

H226 Flammable liquid and vapor.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Training information: No data available.

Issue Date: 20.09.2016

SDS No.:

Disclaimer:

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.