

SAFETY DATA SHEET

Zinc-Alu Spray

Section 1. Identification

Product identifier : Zinc-Alu Spray
Product code : 110020
Color : Silver.
Other means of identification : Not available.
Product type : Aerosol.

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

Identified uses

Aerosol product

Uses advised against

Not applicable.

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TRANSPORT EMERGENCY CONTACT - UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)

Section 2. Hazards identification

Classification of the substance or mixture : AEROSOLS - Category 1
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements, including precautionary statements

Hazard pictograms



Signal word : Danger

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurized container: may burst if heated.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

- Prevention** : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P251 - Do not pierce or burn, even after use.
P261 - Avoid breathing dust or mist.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye or face protection.
- Response** : P391 - Collect spillage.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : P501 - Dispose of waste according to applicable legislation.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	Identifiers
acetone	≥10 - ≤25	CAS: 67-64-1 EC: 200-662-2
ethyl acetate	≥10 - ≤25	CAS: 141-78-6 EC: 205-500-4
xylene	<10	CAS: 1330-20-7 EC: 215-535-7
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	≤10	CAS: 64742-48-9 EC: 919-857-5
Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics	≤10	EC: 918-481-9
Zinc powder - zinc dust (stabilized)	≤3	CAS: 7440-66-6 EC: 231-175-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

- Chemical formula** : Not applicable.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
acetone	Workplace Safety and Health Act (Singapore, 1/2025) PEL (long term) 8 hours: 750 ppm. PEL (long term) 8 hours: 1780 mg/m ³ . PEL (short term) 15 minutes: 2380 mg/m ³ . PEL (short term) 15 minutes: 1000 ppm.
ethyl acetate	Workplace Safety and Health Act (Singapore, 1/2025) PEL (long term) 8 hours: 400 ppm. PEL (long term) 8 hours: 1440 mg/m ³ .
xylene	Workplace Safety and Health Act (Singapore, 1/2025) [Xylene] PEL (long term) 8 hours: 100 ppm. PEL (long term) 8 hours: 434 mg/m ³ . PEL (short term) 15 minutes: 651 mg/m ³ . PEL (short term) 15 minutes: 150 ppm.

Biological exposure indices

No exposure indices known.

Section 8. Exposure controls/personal protection

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended : 1 - 4 hours (breakthrough time): Protective gloves made of nitrile rubber (material thickness of 0,4 mm); EN 374-5 Cat. III 4 - 8 hours (breakthrough time): Protective gloves made of Viton®/ butyl rubber (material thickness of 0,7 mm); EN388 Cat.II / EN374 Cat.III / EN374-2
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended : organic vapor (Type AX) and particulate filter

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Gas. [Aerosol]
- Color** : Silver.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not applicable.

Section 9. Physical and chemical properties and safety characteristics

Boiling point or initial boiling point and boiling range	: -44°C (-47.2°F)
Flash point	: Closed cup: -97°C (-142.6°F)
Evaporation rate	: Not available.
Flammability	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: Not available.
Relative vapor density	: Not available.
Relative density	: Not applicable.
Density	: 1 g/cm ³ [20°C (68°F)]
Solubility in water	: Not available.
Miscible with water	: No.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
Heat of combustion	: 30.61 kJ/g
Viscosity	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

Particle characteristics

Median particle size : Not applicable.

Aerosol product

Type of aerosol : Spray

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
SADT	: Not available.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name

acetone

Result

Rat - Oral - LD50

5800 mg/kg

Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor

ethyl acetate

Rat - Oral - LD50

5620 mg/kg

xylene

Rat - Oral - LD50

4300 mg/kg

Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes

Mouse - Oral - LD50

2119 mg/kg

Human - Oral - LDLo

50 mg/kg

Mouse - Dermal - TDLo

727.3 ul/kg

Toxic effects: Metabolism (intermediary) - Effect on inflammation or mediation of inflammation

Rat - Oral - LD50

4300 mg/kg

Human - Oral - LDLo

50 mg/kg

Rabbit - Dermal - TDLo

4300 mg/kg

Toxic effects: Skin After topical exposure - Corrosive

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

acetone

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Mild irritant

Amount/concentration applied: 395 mg

xylene

Rat - Skin - Mild irritant

Duration of treatment/exposure: 8 hours

Amount/concentration applied: 60 uL

Rabbit - Skin - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Moderate irritant

Amount/concentration applied: 100 %

Zinc powder - zinc dust (stabilized)

Human - Skin - Mild irritant

Duration of treatment/exposure: 72 hours

Amount/concentration applied: 300 ug l

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Result

Section 11. Toxicological information

acetone

Human - Eyes - Mild irritantAmount/concentration applied: 186300 ppm**Rabbit - Eyes - Mild irritant**Amount/concentration applied: 10 uL**Rabbit - Eyes - Moderate irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 20 mg**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 20 mg

xylene

Rabbit - Eyes - Mild irritantAmount/concentration applied: 87 mg**Rabbit - Eyes - Severe irritant**Duration of treatment/exposure: 24 hoursAmount/concentration applied: 5 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

acetone

ethyl acetate

Hydrocarbons, C9-C11, n-alkanes,
isoalkanes, cyclics, <2% aromatics

Result

SPECIFIC TARGET ORGAN TOXICITY (SINGLE
EXPOSURE) (Narcotic effects) - Category 3SPECIFIC TARGET ORGAN TOXICITY (SINGLE
EXPOSURE) (Narcotic effects) - Category 3SPECIFIC TARGET ORGAN TOXICITY (SINGLE
EXPOSURE) (Narcotic effects) - Category 3

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name

Hydrocarbons, C9-C11, n-alkanes,
isoalkanes, cyclics, <2% aromatics
Hydrocarbons, C10-C13, n-alkanes,
isoalkanes, cyclics, < 2% aromatics

Result

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Not available.

Potential acute health effects

- | | |
|---------------------|---|
| Eye contact | : Causes serious eye irritation. |
| Inhalation | : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | : No known significant effects or critical hazards. |
| Ingestion | : Can cause central nervous system (CNS) depression. |

Symptoms related to the physical, chemical and toxicological characteristics

- | | |
|---------------------|---|
| Eye contact | : Adverse symptoms may include the following:
pain or irritation
watering
redness |
| Inhalation | : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness |
| Skin contact | : No specific data. |
| Ingestion | : No specific data. |

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- | | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Long term exposure

- | | |
|------------------------------------|------------------|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

- | | |
|------------------------|---|
| General | : No known significant effects or critical hazards. |
| Carcinogenicity | : No known significant effects or critical hazards. |

Section 11. Toxicological information

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
acetone	5800	N/A	N/A	N/A	N/A
ethyl acetate	5620	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

acetone

Result

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*

10 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia pulex*

Age: <24 hours

8800 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia cucullata*

Age: 11 days

7460 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia cucullata*

Age: 11 days

7810 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Aquatic sowbug - *Asellus aquaticus*

7550 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Scud - *Gammarus pulex*

6000 mg/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 28 days; Size: 19.2 mm; Weight: 0.076 g

7280 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 33 days; Size: 22.6 mm; Weight: 0.159 g

8120 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Section 12. Ecological information

Age: 32 days; Size: 18 mm; Weight: 0.087 g

6210 mg/l [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

Age: <12 hours

8098 mg/l [48 hours]

Effect: Mortality

Acute - EC50 - Fresh water

Algae - Green algae - *Selenastrum* sp.

7200 mg/l [96 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Green algae - *Ulva pertusa*

4.95 mg/l [96 hours]

Effect: Reproduction

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*

20.565 mg/l [96 hours]

Effect: Reproduction

Chronic - NOEC - Marine water

Algae - Diatom - *Skeletonema costatum*

100 µl/l [72 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Diatom - *Skeletonema costatum*

100 µl/l [96 hours]

Effect: Population

Chronic - NOEC - Marine water

Algae - Dinoflagellate - *Karenia brevis*

0.5 ml/l [96 hours]

Effect: Population

Acute - LC50 - Marine water

ISO

Crustaceans - Calanoid copepod - *Acartia tonsa* - Copepodid

4.42589 ml/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Crustaceans - Scud - *Gammarus pulex* - Juvenile (Fledgling, Hatchling, Weanling)

Size: 5 to 10 mm

11.26487 ml/l [48 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*

Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g

8000 ppm [96 hours]

Effect: Mortality

Acute - LC50 - Fresh water

Fish - Guppy - *Poecilia reticulata*

Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g

5600 ppm [96 hours]

Effect: Mortality

Chronic - NOEC - Fresh water

Crustaceans - Daphnia - *Daphniidae*

0.016 ml/l [21 days]

Effect: Population

Chronic - NOEC - Marine water

Fish - Threespine stickleback - *Gasterosteus aculeatus* - Larvae

Age: 7 days

Section 12. Ecological information

ethyl acetate

5 µg/l [42 days]

Effect: Growth**Acute - LC50 - Fresh water**Daphnia - Water flea - *Daphnia cucullata*Age: 11 days

154 mg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Indian catfish - *Heteropneustes fossilis*Size: 14.16 cm; Weight: 25.54 g

212.5 mg/l [96 hours]

Effect: Mortality**Acute - EC50 - Fresh water**Algae - Green algae - *Selenastrum sp.*

2500 mg/l [96 hours]

Effect: Population**Chronic - NOEC - Fresh water**Fish - Fathead minnow - *Pimephales promelas* - EmbryoAge: <24 hours

75.6 mg/l [32 days]

Effect: Mortality**Chronic - NOEC - Fresh water**Daphnia - Water flea - *Daphnia magna*Age: ≤24 hours

2.4 mg/l [21 days]

Effect: Mortality

xylene

Acute - LC50 - Marine waterCrustaceans - Daggerblade grass shrimp - *Palaemon pugio*

8500 µg/l [48 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Fathead minnow - *Pimephales promelas*Age: 31 days; Size: 18.4 mm; Weight: 0.077 g

13.4 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Goldfish - *Carassius auratus*Age: 1 to 1.5 years; Size: 13 to 20 cm; Weight: 20 to 80 g

16.94 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Bluegill - *Lepomis macrochirus* - Juvenile (Fledgling, Hatchling, Weanling)Size: 3.65 cm; Weight: 0.9 g

15.7 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Bluegill - *Lepomis macrochirus*Size: 3.8 to 6.4 cm; Weight: 1 to 2 g

20.87 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**Fish - Bluegill - *Lepomis macrochirus*Weight: 0.8 g

19 mg/l [96 hours]

Effect: Mortality**Acute - LC50 - Marine water**Crustaceans - Daggerblade grass shrimp - *Palaemon pugio* - Adult

8.5 ppm [48 hours]

Effect: Mortality

Section 12. Ecological information

Zinc powder - zinc dust (stabilized)

Acute - EC50 - Fresh water

Crustaceans - Ostracod - *Cypris subglobosa*

90 mg/l [48 hours]

Effect: Intoxication

Chronic - NOEC - Fresh water

Fish - common carp - *Cyprinus carpio*

Age: 13 months; Size: 10.5 cm; Weight: 27.8 g

2.6 µg/l [4 weeks]

Effect: Accumulation

Acute - LC50 - Marine water

Fish - Mudskipper - *Periophthalmus waltoni* - Adult

12.21 µg/l [96 hours]

Effect: Mortality

Acute - EC50

Algae - Green algae - *Raphidocelis subcapitata*

0.005 mg/l [72 hours]

Effect: Population

Chronic - EC10

OECD

Daphnia - Water flea - *Daphnia magna* - Neonate

Age: <24 hours

6.3 µg/l [21 days]

Effect: Reproduction

Acute - EC50 - Fresh water

US EPA

Crustaceans - Water flea - *Ceriodaphnia dubia* - Neonate

Age: <24 hours

34 µg/l [48 hours]

Effect: Intoxication

Chronic - EC10 - Fresh water

OECD

Algae - Green algae - *Raphidocelis subcapitata* - Exponential growth phase

27.3 µg/l [72 hours]

Effect: Population

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Not available.

Conclusion/Summary [Product] : Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.23	-	Low
ethyl acetate	0.68	30	Low
xylene	3.12	8.1 to 25.9	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	UN	IMDG	IATA	ADR/RID	ADN
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS (butane, propane)	Aerosols, flammable (butane, propane)	AEROSOLS (butane, propane)	AEROSOLS (butane, propane)
Transport hazard class (es)	2.1 	2.1  	2.1 	2  	2 
Packing group	-	-	-	-	-
Environmental hazards	No.	Yes.	No.	Yes.	No.

Additional information

UN : **Special provisions** 63, 190, 277, 327, 344, 381

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-D, S-U
Special provisions 63, 190, 277, 327, 344, 381, 959

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203.
Special provisions A145, A167, A802

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Limited quantity 1 L
Special provisions 190, 327, 625, 344
Tunnel code (D)
ADR Classification Code: 5F

ADN : **Special provisions** 190, 327, 625, 344

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Singapore - hazardous chemicals under government control

None.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Eurasian Economic Union	: Russian Federation inventory : Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

History

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Key to abbreviations : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Section 16. Other information

N/A = Not available

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

SGG = Segregation Group

UN = United Nations

Procedure used to derive the classification

Classification	Justification
AEROSOLS - Category 1	On basis of test data
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
AQUATIC HAZARD (ACUTE) - Category 1	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 1	Calculation method

References : Not available. Indicates information that has changed from previously issued version.

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