

SAFETY DATA SHEET



according to Workplace Safety and Health Regulations Singapore

Zinc Spray

Section 1. Identification

Product identifier : Zinc Spray

Product code : 110000

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

Aerosol product

Supplier's details : WEICON GmbH & Co. KG
Königsberger Str. 25,
48157 Münster, Germany
phone: +49 251 93220,
Fax: +49 251 932244
email: info@weicon.de,
URL: www.weicon.de

e-mail address of person responsible for this SDS : msds@weicon.de

Emergency telephone number : EMERGENCY CONTACT – UK, UAE, South Africa (24h): Tel: ++44 1865 407333 (English)
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
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
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.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

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.
P264 - Wash thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves. Wear eye or face protection.

Response : P391 - Collect spillage.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
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.

Section 2. Hazards identification

- Storage** : P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
- 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

| Ingredient name | % | CAS number |
|------------------------|-----------|------------|
| zinc dust | ≥10 - ≤25 | 7440-66-6 |
| xylene isomers mixture | ≤10 | 1330-20-7 |
| acetone | ≤5.7 | 67-64-1 |
| ethyl acetate | ≤5.7 | 141-78-6 |
| n-butyl acetate | ≤5.7 | 123-86-4 |
| n-butanol | ≤2.8 | 71-36-3 |

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 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 adverse health effects persist or are severe. 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. Continue to rinse for at least 10 minutes. Get medical attention. 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 adverse health effects persist or are severe. 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** : No known significant effects or critical hazards.

Section 4. First aid measures

- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

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
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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. 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

Section 8. Exposure controls/personal protection

| Ingredient name | Exposure limits |
|------------------------|--|
| xylene isomers mixture | Workplace Safety and Health Act (Singapore, 2/2006). [Xylene] PEL (long term): 100 ppm 8 hours. PEL (long term): 434 mg/m ³ 8 hours. PEL (short term): 651 mg/m ³ 15 minutes. PEL (short term): 150 ppm 15 minutes. |
| acetone | Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 750 ppm 8 hours. PEL (long term): 1780 mg/m ³ 8 hours. PEL (short term): 2380 mg/m ³ 15 minutes. PEL (short term): 1000 ppm 15 minutes. |
| ethyl acetate | Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 400 ppm 8 hours. PEL (long term): 1440 mg/m ³ 8 hours. |
| n-butyl acetate | Workplace Safety and Health Act (Singapore, 2/2006). PEL (long term): 150 ppm 8 hours. PEL (long term): 713 mg/m ³ 8 hours. PEL (short term): 950 mg/m ³ 15 minutes. PEL (short term): 200 ppm 15 minutes. |
| n-butanol | Workplace Safety and Health Act (Singapore, 2/2006). PEL (short term): 152 mg/m ³ 15 minutes. PEL (short term): 50 ppm 15 minutes. |

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, 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

Section 8. Exposure controls/personal 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

Appearance

- Physical state** : Aerosol.
- Color** : Silver.
- Odor** : Solvent. Sweetish.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : -24°C (-11.2°F)
- Boiling point, initial boiling point, and boiling range** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not available.
- Flammability** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Flammable in the presence of the following materials or conditions: shocks and mechanical impacts.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** : Not available.
- Relative vapor density** : Not available.
- Relative density** : Not applicable.
- Density** : 0.86 g/cm³
- Solubility(ies)** :

| Media | Result |
|------------|-------------|
| cold water | Not soluble |
| hot water | Not soluble |

- Solubility in water** : Not available.
- Miscible with water** : No.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : Not applicable.

Section 9. Physical and chemical properties

Decomposition temperature : Not available.

Heat of combustion : 31.48 kJ/g

Viscosity : Not applicable.

Flow time (ISO 2431) : 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 applicable.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|--------------------|-------------------------|----------|
| xylene isomers mixture | LD50 Oral | Mouse | 2119 mg/kg | - |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| | LDLo Oral | Human | 50 mg/kg | - |
| | LDLo Oral | Human | 50 mg/kg | - |
| | TDLo Dermal | Mouse | 727.3 uL/kg | - |
| | TDLo Dermal | Rabbit | 4300 mg/kg | - |
| acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| ethyl acetate | LD50 Oral | Rat | 5620 mg/kg | - |
| n-butyl acetate | LC50 Inhalation Vapor | Rat - Male, Female | >21 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | >17600 mg/kg | - |
| | LD50 Oral | Rat | 10768 mg/kg | - |
| n-butanol | LC50 Inhalation Vapor | Rat | 24000 mg/m ³ | 4 hours |
| | LD50 Dermal | Rabbit | 3400 mg/kg | - |

Section 11. Toxicological information

LD50 Oral

Rat

790 mg/kg

-

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-------------------|-------------|
| zinc dust | Skin - Mild irritant | Human | - | 72 hours 300 ug l | - |
| xylene isomers mixture | Eyes - Mild irritant | Rabbit | - | 87 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 mg | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 uL | - |
| | Skin - Moderate irritant | Rabbit | - | 100 % | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
| acetone | Eyes - Mild irritant | Human | - | 186300 ppm | - |
| | Eyes - Mild irritant | Rabbit | - | 10 uL | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 20 mg | - |
| | Skin - Mild irritant | Rabbit | - | 395 mg | - |
| n-butanol | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 0.005 MI | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 2 mg | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| | | | | | |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|-----------------|------------|-------------------|------------------------------|
| acetone | Category 3 | - | Narcotic effects |
| ethyl acetate | Category 3 | - | Narcotic effects |
| n-butyl acetate | Category 3 | - | Narcotic effects |
| n-butanol | Category 3 | - | Respiratory tract irritation |
| | Category 3 | | Narcotic effects |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Section 11. Toxicological information

Potential acute health effects

| | |
|---------------------|---|
| Eye contact | : Causes serious eye irritation. |
| Inhalation | : No known significant effects or critical hazards. |
| Skin contact | : Causes skin irritation. |
| Ingestion | : No known significant effects or critical hazards. |

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 |
| Skin contact | : Adverse symptoms may include the following: irritation redness |
| 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.

| | |
|------------------------------|---|
| General | : No known significant effects or critical hazards. |
| Carcinogenicity | : No known significant effects or critical hazards. |
| Mutagenicity | : No known significant effects or critical hazards. |
| Teratogenicity | : No known significant effects or critical hazards. |
| Developmental effects | : No known significant effects or critical hazards. |
| Fertility effects | : 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) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| Zinc Spray | 7323.3 | N/A | N/A | N/A | N/A |
| acetone | 5800 | N/A | N/A | N/A | N/A |
| ethyl acetate | 5620 | N/A | N/A | N/A | N/A |
| n-butyl acetate | 10768 | N/A | N/A | N/A | N/A |
| n-butanol | 790 | 3400 | N/A | 24 | N/A |

Acute toxicity estimates

| Route | ATE value |
|-------|--------------|
| Oral | 7323.3 mg/kg |

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|--------------------------------------|---|----------|
| zinc dust | Acute EC50 10000 µg/l Fresh water | Aquatic plants - <i>Lemna minor</i> | 4 days |
| | Acute IC50 65 µg/l Marine water | Algae - <i>Nitzschia closterium</i> - Exponential growth phase | 4 days |
| | Acute LC50 65 µg/l Fresh water | Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate | 48 hours |
| | Acute LC50 68 µg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 12.21 µg/l Marine water | Fish - <i>Periophthalmus waltoni</i> - Adult | 96 hours |
| | Chronic EC10 59.2 µg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 21 days |
| | Chronic NOEC 0.25 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Chronic NOEC 9 mg/l Fresh water | Aquatic plants - <i>Ceratophyllum demersum</i> | 3 days |
| | Chronic NOEC 178 µg/l Marine water | Crustaceans - <i>Palaemon elegans</i> | 21 days |
| | Chronic NOEC 2.6 µg/l Fresh water | Fish - <i>Cyprinus carpio</i> | 4 weeks |
| xylene isomers mixture | Acute EC50 90 mg/l Fresh water | Crustaceans - <i>Cypris subglobosa</i> | 48 hours |
| | Acute LC50 8.5 ppm Marine water | Crustaceans - <i>Palaemonetes pugio</i> - Adult | 48 hours |
| | Acute LC50 8500 µg/l Marine water | Crustaceans - <i>Palaemonetes pugio</i> | 48 hours |
| | Acute LC50 16940 µg/l Fresh water | Fish - <i>Carassius auratus</i> | 96 hours |
| | Acute LC50 15700 µg/l Fresh water | Fish - <i>Lepomis macrochirus</i> - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| | Acute LC50 20870 µg/l Fresh water | Fish - <i>Lepomis macrochirus</i> | 96 hours |
| | Acute LC50 19000 µg/l Fresh water | Fish - <i>Lepomis macrochirus</i> | 96 hours |
| acetone | Acute LC50 13400 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute EC50 11493300 µg/l Fresh water | Algae - <i>Navicula seminulum</i> | 96 hours |
| | Acute EC50 11727900 µg/l Fresh water | Algae - <i>Navicula seminulum</i> | 96 hours |
| | Acute EC50 7200000 µg/l Fresh water | Algae - <i>Selenastrum sp.</i> | 96 hours |
| | Acute EC50 20.565 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Acute EC50 23.5 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 4.42589 ml/L Marine water | Crustaceans - <i>Acartia tonsa</i> - Copepodid | 48 hours |

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| | | | |
|-----------------|--------------------------------------|---|----------|
| | Acute LC50 7550000 µg/l Fresh water | Crustaceans - <i>Asellus aquaticus</i> | 48 hours |
| | Acute LC50 8098000 µg/l Fresh water | Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate | 48 hours |
| | Acute LC50 11.26487 ml/L Fresh water | Crustaceans - <i>Gammarus pulex</i> - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
| | Acute LC50 6000000 µg/l Fresh water | Crustaceans - <i>Gammarus pulex</i> | 48 hours |
| | Acute LC50 7460000 µg/l Fresh water | Daphnia - <i>Daphnia cucullata</i> | 48 hours |
| | Acute LC50 7810000 µg/l Fresh water | Daphnia - <i>Daphnia cucullata</i> | 48 hours |
| | Acute LC50 10000 µg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 8800000 µg/l Fresh water | Daphnia - <i>Daphnia pulex</i> | 48 hours |
| | Acute LC50 8000 ppm Fresh water | Fish - <i>Oncorhynchus mykiss</i> | 96 hours |
| | Acute LC50 7280000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute LC50 8120000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute LC50 6210000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute LC50 5600 ppm Fresh water | Fish - <i>Poecilia reticulata</i> | 96 hours |
| | Chronic NOEC 0.5 ml/L Marine water | Algae - <i>Karenia brevis</i> | 96 hours |
| | Chronic NOEC 100 µl/L Marine water | Algae - <i>Skeletonema costatum</i> | 72 hours |
| | Chronic NOEC 100 µl/L Marine water | Algae - <i>Skeletonema costatum</i> | 96 hours |
| | Chronic NOEC 4.95 mg/l Marine water | Algae - <i>Ulva pertusa</i> | 96 hours |
| | Chronic NOEC 0.016 ml/L Fresh water | Crustaceans - <i>Daphniidae</i> | 21 days |
| | Chronic NOEC 0.1 ml/L Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 21 days |
| | Chronic NOEC 5 µg/l Marine water | Fish - <i>Gasterosteus aculeatus</i> - Larvae | 42 days |
| ethyl acetate | Acute EC50 2500000 µg/l Fresh water | Algae - <i>Selenastrum sp.</i> | 96 hours |
| | Acute LC50 750000 µg/l Fresh water | Crustaceans - <i>Gammarus pulex</i> | 48 hours |
| | Acute LC50 154000 µg/l Fresh water | Daphnia - <i>Daphnia cucullata</i> | 48 hours |
| | Acute LC50 212500 µg/l Fresh water | Fish - <i>Heteropneustes fossilis</i> | 96 hours |
| | Chronic NOEC 2.4 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 21 days |
| | Chronic NOEC 75.6 mg/l Fresh water | Fish - <i>Pimephales promelas</i> - Embryo | 32 days |
| n-butyl acetate | Acute LC50 32 mg/l Marine water | Crustaceans - <i>Artemia salina</i> | 48 hours |
| | Acute LC50 62000 µg/l Fresh water | Fish - <i>Danio rerio</i> | 96 hours |
| | Acute LC50 100 ppm Fresh water | Fish - <i>Lepomis macrochirus</i> | 96 hours |
| | Acute LC50 18000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |

Section 12. Ecological information

| | | | |
|-----------|-------------------------------------|-----------------------------------|----------|
| n-butanol | Acute EC50 1983 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 1730000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |

Persistence/degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-------------|-----------|
| xylene isomers mixture | 3.12 | 8.1 to 25.9 | Low |
| acetone | -0.23 | - | Low |
| ethyl acetate | 0.68 | 30 | Low |
| n-butyl acetate | 2.3 | - | Low |
| n-butanol | 1 | - | Low |

Mobility in soil







Soil/water partition coefficient (K_{oc}) : 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 |
|----------------------------|--|--|---|--|
| UN number | UN1950 | UN1950 | UN1950 | UN1950 |
| UN proper shipping name | AEROSOLS | AEROSOLS (Zinc powder - zinc dust (stabilized)) | Aerosols, flammable (Zinc powder - zinc dust (stabilized)) | AEROSOLS (Zinc powder - zinc dust (stabilized)) |
| Transport hazard class(es) | 2.1  | 2.1   | 2.1  | 2   |
| Packing group | - | - | - | - |
| Environmental hazards | Yes. The environmentally hazardous substance mark is not required. | Yes. | Yes. The environmentally hazardous substance mark is not required. | Yes. |

Additional information

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

Section 14. Transport information

| | |
|-------------------------------------|--|
| 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 |
| 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 | : All components are listed or exempted. |
| China | : All components are listed or exempted. |
| Eurasian Economic Union | : Russian Federation inventory: Not determined. |
| Japan | : Japan inventory (CSCL): All components are listed or exempted. Japan inventory (ISHL): Not determined. |
| New Zealand | : Not determined. |
| Philippines | : Not determined. |
| Republic of Korea | : Not determined. |
| Taiwan | : Not determined. |
| Thailand | : Not determined. |

Section 15. Regulatory information

| | |
|----------------------|--|
| Turkey | : Not determined. |
| United States | : All components are active or exempted. |
| Viet Nam | : Not determined. |

Section 16. Other information

History

| | |
|---------------------------------------|-------------|
| Date of printing | : 5/15/2025 |
| Date of issue/Date of revision | : 5/12/2025 |
| Date of previous issue | : 2/19/2025 |
| Version | : 4.3 |

| | |
|-----------------------------|--|
| Key to abbreviations | : 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 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) N/A = Not available SGG = Segregation Group UN = United Nations |
|-----------------------------|--|

Procedure used to derive the classification

| Classification | Justification |
|--|-----------------------|
| AEROSOLS - Category 1 | On basis of test data |
| SKIN CORROSION/IRRITATION - Category 2 | Calculation method |
| SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A | 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.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.