

SAFETY DATA SHEET



according to GHS- B.E. 2555

Zinc Spray dark-grey

Section 1. Identification of the substance/mixture and of the company/undertaking

GHS product identifier : Zinc Spray dark-grey

Product code : 110030

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

Aerosol product
Plating agent
Industrial application of coatings and inks

Supplier's details : WEICON GmbH & Co. KG
Königsberger Str. 255
48157 Münster
Germany
Phone: +49 251 93220
Fax: +49(0)251 / 9322 - 244
Internet: www.weicon.de

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

Emergency telephone number : **TRANSPORT / EMERGENCY CONTACT (24h): Tel: +44 1865 407333 (English)**

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 3
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
AQUATIC HAZARD (ACUTE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H222 - Extremely flammable aerosol.
H280 - Contains gas under pressure; may explode if heated.
H316 - Causes mild skin irritation.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H351 - Suspected of causing cancer.
H401 - Toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazards identification

- Prevention** : P201 - Obtain special instructions before use.
P281 - Use personal protective equipment as required.
P280 - Wear eye or face protection.
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.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P261 - Avoid breathing dust or mist.
P264 - Wash thoroughly after handling.
P251 - Do not pierce or burn, even after use.
- Response** : P391 - Collect spillage.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
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 contents and container in accordance with all local, regional, national and international regulations.

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

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|-----------|------------|
| zinc powder zinc dust (stabilised) | ≥10 - ≤23 | 7440-66-6 |
| acetone | ≤10 | 67-64-1 |
| ethyl acetate | ≤10 | 141-78-6 |
| Solvent naphtha (petroleum), light arom. | ≤10 | 64742-95-6 |
| ethylbenzene | ≤5 | 100-41-4 |
| xylene isomers mixture | ≤5 | 1330-20-7 |
| zinc oxide | ≤1 | 1314-13-2 |

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.

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.

Section 4. First aid measures

- 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. 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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** : Causes mild skin irritation.
- 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** : 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. 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. 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. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. 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. Protect from sunlight. 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 | Ministry of Labor (Thailand, 8/2017). TWA: 1000 ppm 8 hours. |
| ethyl acetate | Ministry of Labor (Thailand, 8/2017). TWA: 400 ppm 8 hours. |
| ethylbenzene | Ministry of Labor (Thailand, 8/2017). TWA: 100 ppm 8 hours. |
| xylene isomers mixture | Ministry of Labor (Thailand, 8/2017). TWA: 100 ppm 8 hours. |
| zinc oxide | Ministry of Labor (Thailand, 8/2017). TWA: 5 mg/m ³ 8 hours. Form: Fume TWA: 5 mg/m ³ 8 hours. Form: Respirable dust TWA: 15 mg/m ³ 8 hours. Form: inhalable dust |

- 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

Section 8. Exposure controls/personal protection

- 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): nitrile rubber 4 - 8 hours (breakthrough time): Viton®/butyl rubber
- 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** : Dark Gray.
- Odor** : Solvent. Sweetish.
- Odor threshold** : Not available.
- pH** : No results available.
- Melting point** : -187.6°C (-305.7°F)
- Boiling point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Fire point** : >400°C (>752°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Lower: 1.1%
Upper: 15%
- Vapor pressure** : 740 kPa (5550.5 mm Hg) [room temperature]
- Vapor density** : Not available.
- Relative density** : Not available.
- Density** : 0.72 to 0.73 g/cm³
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature : Not applicable.

Decomposition temperature : Not available.

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Aerosol product

Type of aerosol : Spray

Heat of combustion : 31.85 kJ/g

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.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|----------------------|---------|-------------|----------|
| acetone | LD50 Oral | Rat | 5800 mg/kg | - |
| ethyl acetate | LD50 Oral | Rat | 5620 mg/kg | - |
| Solvent naphtha (petroleum), light arom. | LD50 Oral | Rat | 8400 mg/kg | - |
| ethylbenzene | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| xylene isomers mixture | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|--------------------------|---------|-------|-------------------|-------------|
| zinc powder zinc dust (stabilised) acetone | Skin - Mild irritant | Human | - | 72 hours 300 ug l | - |
| | Eyes - Mild irritant | Human | - | 186300 ppm | - |
| | Eyes - Mild irritant | Rabbit | - | 10 UI | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 20 mg | - |
| Solvent naphtha (petroleum), light arom. | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 395 mg | - |
| | | Rabbit | - | 24 hours 100 UI | - |
| | | | | | |
| | | | | | |

Section 11. Toxicological information

| | | | | | |
|------------------------|--|---------------------------------------|----------------------|--|----------------------|
| ethylbenzene | Eyes - Severe irritant Skin - Mild irritant | Rabbit Rabbit | - - | 500 mg 24 hours 15 mg | - - |
| xylene isomers mixture | Eyes - Mild irritant Eyes - Severe irritant Skin - Mild irritant Skin - Moderate irritant | Rabbit Rabbit Rat Rabbit | - - - - | 87 mg 24 hours 5 mg 8 hours 60 UI 24 hours 500 mg | - - - - |
| zinc oxide | Skin - Moderate irritant Eyes - Mild irritant Skin - Mild irritant | Rabbit Rabbit Rabbit | - - - | 100 % 24 hours 500 mg 24 hours 500 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 |
| Solvent naphtha (petroleum), light arom. | Category 3 | - | Respiratory tract irritation |
| | Category 3 | | Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|--------------|------------|-------------------|---------------|
| ethylbenzene | Category 2 | - | - |

Aspiration hazard

| Name | Result |
|--|--|
| Solvent naphtha (petroleum), light arom. ethylbenzene | 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** : Causes mild skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression.

Section 11. Toxicological information

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** : 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** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- 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 dark-grey | 19487.8 | N/A | 83000 | 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 |
| Solvent naphtha (petroleum), light arom. | 8400 | N/A | N/A | N/A | N/A |
| ethylbenzene | 3500 | N/A | N/A | N/A | N/A |
| xylene isomers mixture | 4300 | N/A | 5000 | N/A | N/A |

Acute toxicity estimates

Section 11. Toxicological information

| Route | ATE value |
|--------------------|----------------|
| Oral | 19487.82 mg/kg |
| Inhalation (gases) | 83000 ppm |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|------------------------------------|-------------------------------------|--|----------|
| zinc powder zinc dust (stabilised) | Acute EC50 106 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute EC50 10000 µg/l Fresh water | Aquatic plants - Lemna minor | 4 days |
| | Acute IC50 65 µg/l Marine water | Algae - Nitzschia closterium - Exponential growth phase | 4 days |
| | Acute LC50 65 µg/l Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate | 48 hours |
| | Acute LC50 68 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 12.21 µg/l Marine water | Fish - Periophthalmus waltoni - Adult | 96 hours |
| | Chronic EC10 27.3 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Chronic EC10 59.2 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Chronic NOEC 9 mg/l Fresh water | Aquatic plants - Ceratophyllum demersum | 3 days |
| | Chronic NOEC 178 µg/l Marine water | Crustaceans - Palaemon elegans | 21 days |
| acetone | Chronic NOEC 2.6 µg/l Fresh water | Fish - Cyprinus carpio | 4 weeks |
| | Acute EC50 20.565 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute LC50 6000000 µg/l Fresh water | Crustaceans - Gammarus pulex | 48 hours |
| | Acute LC50 10000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 5600 ppm Fresh water | Fish - Poecilia reticulata | 96 hours |
| | Chronic NOEC 4.95 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Chronic NOEC 0.016 ml/L Fresh water | Crustaceans - Daphniidae | 21 days |
| | Chronic NOEC 0.1 ml/L Fresh water | Daphnia - Daphnia magna - Neonate | 21 days |
| ethyl acetate | Chronic NOEC 5 µg/l Marine water | Fish - Gasterosteus aculeatus - Larvae | 42 days |
| | Acute EC50 2500000 µg/l Fresh water | Algae - Selenastrum sp. | 96 hours |
| | Acute LC50 750000 µg/l Fresh water | Crustaceans - Gammarus pulex | 48 hours |

Section 12. Ecological information

| | | | |
|------------------------|------------------------------------|--|----------|
| ethylbenzene | Acute LC50 154000 µg/l Fresh water | Daphnia - Daphnia cucullata | 48 hours |
| | Acute LC50 212500 µg/l Fresh water | Fish - Heteropneustes fossilis | 96 hours |
| | Chronic NOEC 2400 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Chronic NOEC 75.6 mg/l Fresh water | Fish - Pimephales promelas - Embryo | 32 days |
| | Acute EC50 4600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 3600 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| xylene isomers mixture | Acute EC50 6.53 mg/l Marine water | Crustaceans - Artemia sp. - Nauplii | 48 hours |
| | Acute EC50 2.93 mg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 4200 µg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| zinc oxide | Acute EC50 90 mg/l Fresh water | Crustaceans - Cypris subglobosa | 48 hours |
| | Acute LC50 13400 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Acute IC50 1.85 mg/l Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute IC50 46 µg/l Fresh water | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 98 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 1.1 ppm Fresh water | Fish - Oncorhynchus mykiss | 96 hours |

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-------------|-----------|
| acetone | -0.23 | - | low |
| ethyl acetate | 0.68 | 30 | low |
| Solvent naphtha (petroleum), light arom. | - | 10 to 2500 | high |
| ethylbenzene | 3.6 | - | low |
| xylene isomers mixture | 3.12 | 8.1 to 25.9 | low |
| zinc oxide | - | 28960 | high |

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 |
|-----------------------------------|--|--|--|
| UN number | UN1950 | UN1950 | UN1950 |
| UN proper shipping name | AEROSOLS | AEROSOLS | Aerosols, flammable |
| Transport hazard class(es) | 2.1  | 2.1   | 2.1  |
| Packing group | - | - | - |
| Environmental hazards | Yes. The environmentally hazardous substance mark is not required. | Yes. | Yes. The environmentally hazardous substance mark is not required. |

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

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

Harmful Chemicals List : Listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Section 15. Regulatory information

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 | : All components are listed or exempted. |
| Canada | : All components are listed or exempted. |
| China | : All components are listed or exempted. |
| Europe | : All components are listed or exempted. |
| Japan | : Japan inventory (ENCS) : All components are listed or exempted. Japan inventory (ISHL) : Not determined. |
| New Zealand | : All components are listed or exempted. |
| Philippines | : All components are listed or exempted. |
| Republic of Korea | : All components are listed or exempted. |
| Taiwan | : All components are listed or exempted. |
| Thailand | : Not determined. |
| Turkey | : All components are listed or exempted. |
| United States | : All components are active or exempted. |
| Viet Nam | : All components are listed or exempted. |

Section 16. Other information

History

| | |
|---------------------------------------|--------------------------|
| Date of printing | : 10.06.2020 |
| Date of issue/Date of revision | : 09.06.2020 |
| Date of previous issue | : No previous validation |
| Version | : 1 |

| | |
|-----------------------------|--|
| 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 |
|--|-----------------------|
| FLAMMABLE AEROSOLS - Category 1 | On basis of test data |
| GASES UNDER PRESSURE - Compressed gas | On basis of test data |
| SKIN CORROSION/IRRITATION - Category 3 | Calculation method |
| SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A | Calculation method |
| CARCINOGENICITY - Category 2 | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 | Calculation method |
| AQUATIC HAZARD (ACUTE) - Category 2 | Calculation method |
| AQUATIC HAZARD (LONG-TERM) - Category 1 | Calculation method |

Section 16. Other information

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.