

SAFETY DATA SHEET

Flux ST-501A



Section 1. Identification

GHS product identifier : Flux ST-501A
Reference number : GHS041
Other means of identification : Not applicable
Product type : Liquid.

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

Not applicable.

Supplier's details : AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

In the United States:
AIM
25 Kenney Drive
Cranston, RI 02920
(800) CALL-AIM

In México
AIM Soldadura de México
Circuito Interior Norte # 460
Parque Industrial Salvarcar
Ciudad Juárez, Chih.
(656) 630-0032

Emergency telephone number (with hours of operation) : INFOTRAC
North America: (800) 535-5053
International: (352) 323-3500

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Prevention : Wear protective gloves. Wear eye or face protection. Wear protective clothing. Wash hands thoroughly after handling.

Section 2. Hazards identification

- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

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

| Ingredient name | % | CAS number |
|-------------------|-----------|------------|
| zinc chloride | ≥10 - ≤25 | 7646-85-7 |
| Hydrochloric acid | ≥10 - ≤25 | 7647-01-0 |
| ammonium chloride | ≥10 - ≤22 | 12125-02-9 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Section 4. First aid measures

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 damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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 : In a fire or if heated, a pressure increase will occur and the container may burst. 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:
nitrogen oxides
halogenated compounds
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.

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. Do not touch or walk through spilled material. Do not breathe 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.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. 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.
- Large spill** : Stop leak if without risk. Move containers from spill area. 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. 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 (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

- 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 in original container protected 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. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. 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

| <u>Ingredient name</u> | <u>Exposure limits</u> |
|------------------------|--|
| zinc chloride | <p>ACGIH TLV (United States, 3/2019). TWA: 1 mg/m³ 8 hours. Form: Fume STEL: 2 mg/m³ 15 minutes. Form: Fume</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m³ 8 hours. Form: Fume STEL: 2 mg/m³ 15 minutes. Form: Fume</p> <p>NIOSH REL (United States, 10/2016). TWA: 1 mg/m³ 10 hours. Form: Fume STEL: 2 mg/m³ 15 minutes. Form: Fume</p> <p>OSHA PEL (United States, 5/2018). TWA: 1 mg/m³ 8 hours. Form: Fume</p> |
| Hydrochloric acid | <p>ACGIH TLV (United States, 3/2019). C: 2 ppm</p> <p>OSHA PEL 1989 (United States, 3/1989). CEIL: 5 ppm CEIL: 7 mg/m³</p> <p>NIOSH REL (United States, 10/2016). CEIL: 5 ppm CEIL: 7 mg/m³</p> <p>OSHA PEL (United States, 5/2018). CEIL: 5 ppm CEIL: 7 mg/m³</p> |
| ammonium chloride | <p>ACGIH TLV (United States, 3/2019). TWA: 10 mg/m³ 8 hours. Form: Fume STEL: 20 mg/m³ 15 minutes. Form: Fume</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 10 mg/m³ 8 hours. STEL: 20 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 10 mg/m³ 10 hours. Form: Fume STEL: 20 mg/m³ 15 minutes. Form: Fume</p> |

Appropriate engineering controls

: 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.

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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- 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.
- 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Chlorinated. [Strong]
- Odor threshold** : Not available.
- pH** : 2
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Not available.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.

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** : No specific data.

Section 10. Stability and reactivity

Incompatible materials : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis

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 |
|-------------------------|-----------|------------|------------|----------|
| zinc chloride | LD50 Oral | Guinea pig | 200 mg/kg | - |
| | LD50 Oral | Mouse | 329 mg/kg | - |
| | LD50 Oral | Rat | 350 mg/kg | - |
| Hydrochloric acid | LD50 Oral | Rat | 350 mg/kg | - |
| | LD50 Oral | Mouse | 151 mg/kg | - |
| | LD50 Oral | Mouse | 2950 mg/kg | - |
| ammonium chloride | LD50 Oral | Rat | 915 mg/kg | - |
| | LDLo Oral | Mouse | 150 mg/kg | - |
| | LDLo Oral | Mouse | 110 mg/kg | - |
| | LD50 Oral | Mouse | 1300 mg/kg | - |
| | LD50 Oral | Rat | 1650 mg/kg | - |
| | LD50 Oral | Rat | 1650 mg/kg | - |
| | LDLo Oral | Dog | 600 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|------------------------|---------|-------|------------------|-------------|
| zinc chloride | Skin - Severe irritant | Rabbit | - | 120 hours 1 % | - |
| Hydrochloric acid | Eyes - Mild irritant | Rabbit | - | 0.5 minutes 5 mg | - |
| ammonium chloride | Skin - Mild irritant | Human | - | 24 hours 4 % | - |
| | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 100 mg | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| Hydrochloric acid | - | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry not anticipated: Dermal.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
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
 watering
 redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

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

| Route | ATE value |
|-------|--------------|
| Oral | 3999.6 mg/kg |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|-------------------------------------|---|----------|
| zinc chloride | Acute EC50 26 µg/l Marine water | Algae - Navicula incerta | 96 hours |
| | Acute EC50 34 µg/l Fresh water | Algae - Chlorella vulgaris - Exponential growth phase | 72 hours |
| | Acute EC50 1.8 mg/l Fresh water | Aquatic plants - Lemna aequinoctialis | 96 hours |
| | Acute EC50 100 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 49.99 µg/l Fresh water | Crustaceans - Moina irrasa - Neonate | 48 hours |
| | Acute LC50 0.027 mg/l Marine water | Fish - Limanda punctatissima - Pre-larvae | 96 hours |
| | Chronic NOEC 0.02 mg/l Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Chronic NOEC 1000 µg/l Fresh water | Crustaceans - Procambarus clarkii - Intermolt | 21 days |
| Hydrochloric acid | Chronic NOEC 31.5 µg/l Fresh water | Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) | 21 days |
| | Acute LC50 240000 µg/l Marine water | Fish - Oncorhynchus mykiss | 30 days |
| ammonium chloride | Acute LC50 282 ppm Fresh water | Crustaceans - Carcinus maenas - Adult | 48 hours |
| | Acute EC50 0.07 mg/l Marine water | Fish - Gambusia affinis - Adult | 96 hours |
| | Acute LC50 20 µg/l Fresh water | Algae - Hormosira banksii - Gamete | 72 hours |
| | Acute LC50 390 µg/l Fresh water | Crustaceans - Macrobrachium rosenbergii - Post-larvae | 48 hours |
| | Acute LC50 80 µg/l Fresh water | Daphnia - Daphnia magna - Young | 48 hours |
| | Chronic EC10 0.03 mg/l Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| | Chronic NOEC 0.6 mg/l Marine water | Daphnia - Daphnia obtusa | 21 days |
| | Chronic NOEC 330 µg/l Fresh water | Algae - Entomoneis punctulata - Exponential growth phase | 72 hours |
| | Chronic NOEC 0.006 mg/l Fresh water | Crustaceans - Crangonyx sp. - Juvenile (Fledgling, Hatchling, Weanling) | 21 days |
| | | Fish - Ictalurus punctatus - Fry | 30 days |

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-------|-----------|
| zinc chloride | - | 60960 | high |
| ammonium chloride | -3.2 | - | 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | ADR/RID | IMDG | IATA |
|-----------------------------------|--|--|---|---|---|---|
| UN number | UN2922 | UN2922 | UN2922 | UN2922 | UN2922 | 2922 |
| UN proper shipping name | CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric acid, Ammonium Bifluoride) | CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric acid, Ammonium Bifluoride) | CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric acid, Ammonium Bifluoride) | CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric acid, Ammonium Bifluoride) | CORROSIVE LIQUID, TOXIC, N.O.S (Hydrochloric acid, Ammonium Bifluoride) | Corrosive toxic liquids n.o.s. (ZINC CHLORIDE, Ammonium bifluoride) |
| Transport hazard class(es) | 8 (6.1)    | 8 (6.1)    | 8 (6.1)   | 8 (6.1)   | 8 (6.1)   | 8 (6.1)   |
| Packing group | II | II | II | II | II | II |
| Environmental hazards | Yes. | Yes. | Yes. The environmentally hazardous substance mark is not required. | Yes. | Yes. | No. |
| Additional information | This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings | Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.26-2.36 (Class 6), 2.7 (Marine | - | The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. Tunnel code (E) | The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. | The environmentally hazardous substance mark may appear if required by other transportation regulations. |

Section 14. Transport information

| | | | | | | |
|--|--|---|--|--|--|--|
| | <p>meet the general provisions of §§ 173.24 and 173.24a.</p> <p>Reportable quantity 4545.5 lbs / 2063.6 kg.</p> <p>Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> | <p>pollutant mark). The marine pollutant mark is not required when transported by road or rail.</p> | | | | |
|--|--|---|--|--|--|--|

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 Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

State regulations

Massachusetts : The following components are listed: zinc chloride; Hydrochloric acid; ammonium chloride

New York : The following components are listed: Zinc chloride; Hydrochloric acid; Ammonium chloride

New Jersey : The following components are listed: zinc chloride; Hydrochloric acid; ammonium chloride

Pennsylvania : The following components are listed: zinc chloride; Hydrochloric acid; ammonium chloride

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

Section 15. Regulatory information

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.

International lists

National inventory

| | |
|--------------------------|---|
| 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. |
| Malaysia | : All components are listed or exempted. |
| 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. |
| Turkey | : Not determined. |

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | / | 3 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| | | |

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Section 16. Other information

| Classification | Justification |
|--|--|
| SKIN CORROSION - Category 1 SERIOUS EYE DAMAGE - Category 1 | On basis of test data On basis of test data |

History

Date of printing : 3/4/2020
Date of issue/Date of revision : 3/4/2020
Date of previous issue : 2/26/2020
Version : 0.05

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)
 UN = United Nations

References : -ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2
 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998 -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

▣ Indicates information that has changed from previously issued version.

Notice to reader

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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.