**BATH CLEAR ALGICIDE**
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MATERIAL SAFETY DATA SHEET

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SUBSTANCE IDENTIFICATION

SUBSTANCE: **BATH CLEAR ALGICIDE**

TRADE NAMES/SYNONYMS:
13-641-336; ACC45334

CHEMICAL FAMILY:
Mixture

'CERCLA RATINGS (SCALE 0-3): HEALTH=U FIRE=2 REACTIVITY=0 PERSISTENCE=3
NFPA RATINGS (SCALE 0-4): HEALTH=U FIRE=2 REACTIVITY=0

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COMPONENTS AND CONTAMINANTS

COMPONENT: POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYL IMINO)ETHYLENE DICHLORIDE
PERCENT: 26.0

CAS# 31075-24-8

COMPONENT: ETHANOLAMINE
PERCENT: 19.0
CAS# 141-43-5

COMPONENT: TRIETHANOLAMINE
PERCENT: 31.0
CAS# 102-71-6

COMPONENT: CUPRIC CARBONATE
PERCENT: 3.07
CAS# 12069-69-1

OTHER CONTAMINANTS: NONE.

EXPOSURE LIMITS:
ETHANOLAMINE:
3 ppm (8 mg/m3) OSHA TWA; 6 ppm (15 mg/m3) OSHA STEL
3 ppm (8 mg/m3) ACGIH TWA; 6 ppm (15 mg/m3) ACGIH STEL
3 ppm (8 mg/m3) NIOSH recommended 10 hour TWA;
6 ppm (15 mg/m3) NIOSH recommended STEL
3 ppm (8 mg/m3) DFG MAK TWA;
15 ppm (40 mg/m3) DFG MAK 30 minute peak, average value, 2 times/shift

Measurement method: Silica gel tube; methanol/water; gas chromatography with flame ionization detection; (NIOSH III # 2007, Aminoethanol Compounds).

**OSHA revoked the final rule limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338)**

TRIETHANOLAMINE:
5 mg/m3 ACGIH TWA

COPPER DUST AND MIST (as Cu):
1 mg/m3 OSHA TWA
1 mg/m3 ACGIH TWA
1 mg/m3 NIOSH recommended 10 hour TWA
1 mg/m3 DFG MAK TWA (total dust);
2 mg/m3 DFG MAK 30 minute peak, average value, 4 times/shift

Measurement method: Particulate filter; acid; atomic absorption spectrometry; (NIOSH III # 7029).

Subject to SARA Section 313 Annual Toxic Chemical Release Reporting

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PHYSICAL DATA

DESCRIPTION: Blue, viscous liquid with a slight odor.

BOILING POINT: 212 F (100 C) SPECIFIC GRAVITY: 1.20 @ 27 C



VOLATILITY: nil VAPOR PRESSURE: not available

EVAPORATION RATE: not available SOLUBILITY IN WATER: soluble

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FIRE AND EXPLOSION DATA

FIRE AND EXPLOSION HAZARD:
Moderate fire hazard when exposed to heat or flame.

AUTOIGNITION TEMP.: 205 F (96 C)

FIREFIGHTING MEDIA:
Dry chemical, carbon dioxide, water spray or regular foam
(1993 Emergency Response Guidebook, RSPA P 5800.6).

For larger fires, use water spray, fog or regular foam
(1993 Emergency Response Guidebook, RSPA P 5800.6).

FIREFIGHTING:
Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks (1993 Emergency Response Guidebook, RSPA P 5800.6, Guide Page 60).

Extinguish using agents indicated; do not use water directly on material. If large amounts of combustible materials are involved, use water spray or fog in flooding amounts. Use water spray to absorb corrosive vapors. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing corrosive vapors; keep upwind.

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TOXICITY

POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
CARCINOGEN STATUS: None.
ACUTE TOXICITY LEVEL: No data available.
TARGET EFFECTS: No data available.

ETHANOLAMINE:
IRRITATION DATA: 505 mg open skin-rabbit moderate; 250 ug eye-rabbit severe.
TOXICITY DATA: 2420 mg/m3/2 hours inhalation-mouse LC; 2420 mg/m3/2 hours inhalation-cat LC; 0.58 mg/L/1 hour (580 mg/m3) inhalation-guinea pig LCLo (38MKAJ); 1 mL/kg skin-rabbit LD50; 1720 mg/kg oral-rat LD50; 700 mg/kg oral-mouse LD50; 620 mg/kg oral-guinea pig LD50; 1 gm/kg oral-rabbit LD50; 105 mg/kg/30 weeks intermittent oral-rat TDLo; 1500 mg/kg subcutaneous-rat LD50; 225 mg/kg intravenous-rat LD50; 67 mg/kg intraperitoneal-rat LD50; 50 mg/kg intraperitoneal-mouse LD50; 1750 mg/kg intramuscular-rat LD50; mutagenic data (RTECS); reproductive effects data (RTECS).
CARCINOGEN STATUS: None.
LOCAL EFFECTS: Corrosive- inhalation, skin, eye, ingestion.
ACUTE TOXICITY LEVEL: Moderately toxic by dermal absorption, and ingestion.
TARGET EFFECTS: Poisoning may affect the central nervous system, liver, and kidneys.
AT INCREASED RISK FROM EXPOSURE: Persons with pre-existing liver, kidney, skin or respiratory disease.

TRIETHANOLAMINE:
IRRITATION DATA: 15 mg/3 days intermittent skin-human mild; 560 mg/24 hours skin-rabbit mild; 20 mg eye-rabbit severe; 10 mg eye-rabbit mild.
TOXICITY DATA: 20 gm/kg skin-rabbit LD50; 8 gm/kg oral-rat LD50; 5846 mg/kg oral-mouse LD50; 2200 mg/kg oral-guinea pig LD50; 2200 mg/kg oral-rabbit LD50; 1450 mg/kg intraperitoneal-mouse LD50; mutagenic data (RTECS); tumorigenic data (RTECS).
CARCINOGEN STATUS: None. In two year dermal studies, there was some evidence of carcinogenic activity based on increased incidences of hepatocellular neoplasms in female mice. There was equivocal evidence of carcinogenic activity in male rats and mice. There was no evidence of carcinogenic activity in female rats (NTP TR-449).
LOCAL EFFECTS: Irritant- skin, eye.
ACUTE TOXICITY LEVEL: Slightly toxic by ingestion; relatively non-toxic by dermal absorption.
TARGET ORGAN EFFECTS: Poisoning may affect the kidneys and liver.
AT INCREASED RISK FROM EXPOSURE: Persons with liver and kidney diseases.
ADDITIONAL DATA: Cross sensitization reactions have been reported between triethanolamine and other tertiary amines.

CUPRIC CARBONATE:
TOXICITY DATA: 1350 mg/kg oral-rat LD50; 159 mg/kg oral-rabbit LD50.
CARCINOGEN STATUS: None.
LOCAL EFFECTS: Irritant- inhalation, skin, eye.
ACUTE TOXICITY LEVEL: Moderately toxic by ingestion.
TARGET EFFECTS: Poisoning may affect the liver, kidneys and the blood.*
AT INCREASED RISK FROM EXPOSURE: Persons with pre-existing respiratory, liver, kidney, skin or hematopoietic disorders or Wilson's disease.*
ADDITIONAL DATA: May be excreted in breast milk.*

* May be based on general information on copper salts.

## HEALTH EFFECTS AND FIRST AID

INHALATION:
POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
ACUTE EXPOSURE- No data available.
CHRONIC EXPOSURE- No data available.

ETHANOLAMINE:
CORROSIVE. 30 ppm Immediately Dangerous to Life or Health.
ACUTE EXPOSURE- May cause severe respiratory tract irritation possibly including coughing, sore throat, choking, shortness of breath, headache, pain in the nose, mouth and throat and burns of the mucous membranes. If sufficient quantities of a corrosive substance are inhaled, pulmonary edema may develop, often with a latent period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include weak, rapid pulse, hypotension, hemoconcentration and moist rales. Animal exposure resulted in central nervous system stimulation and depression. Four out of six guinea pigs died after being exposed to 0.58 mg/k for 1 hour. Pathologic findings included pulmonary irritation, and degenerative liver and kidney damage.
CHRONIC EXPOSURE- Depending on the concentration and duration of exposure, repeated or prolonged exposure to corrosive substances may cause inflammatory and ulcerative changes in the mouth and possibly bronchial and gastrointestinal disturbances. Chronic exposure of animals resulted in lethargy, apathy, poor appetite, decreased alertness and changes in the lungs, liver and kidneys.

TRIETHANOLAMINE:
ACUTE EXPOSURE- Due to low vapor pressure, inhalation of toxic amounts is unlikely. However, if sufficient quantities are inhaled, irritation of mucous membranes, coughing, sore throat, and shortness of breath may occur. Animal experiments indicate that acute high level exposures to ethanolamines may cause central nervous system depression, pulmonary damage and non-specific hepatic and renal lesions in animals.
CHRONIC EXPOSURE- No data available.

CUPRIC CARBONATE:
IRRITANT.
ACUTE EXPOSURE- May cause irritation to the respiratory tract with sore throat, coughing, shortness of breath, and headache.
CHRONIC EXPOSURE- Prolonged inhalation of dust or mist of copper salts may cause congestion of the nasal mucous membranes, sometimes of the pharynx, and on occasions ulceration and perforation of the nasal septum. Atrophic changes in the mucous membranes were noted in subjects exposed to complex copper salts for long periods of time. Inhalation of copper compounds has caused injury to the lungs and liver with hemochromatosis in animals.

FIRST AID- Remove from exposure area to fresh air immediately. Perform artificial respiration if necessary. Maintain airway, blood pressure and respiration. Keep warm and at rest. Treat symptomatically and supportively. Get medical attention immediately. Qualified medical personnel should consider administering oxygen.

SKIN CONTACT:
POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
ACUTE EXPOSURE- May cause mild irritation.
CHRONIC EXPOSURE- No data available.

ETHANOLAMINE:
CORROSIVE.
ACUTE EXPOSURE- The vapor may be irritating. Contact with the undiluted material may cause severe irritation with erythema and blistering. When applied to human skin for 1.5 hours redness and infiltration of the skin occurred.
CHRONIC EXPOSURE- Effects depend on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in dermatitis or effects similar to acute exposure.

TRIETHANOLAMINE:
IRRITANT.
ACUTE EXPOSURE- Contact may cause irritation with redness and pain, and possibly blistering. Systemic poisoning may occur due to skin absorption.
CHRONIC EXPOSURE- Repeated exposure may cause allergic contact dermatitis or eczema in previously sensitized individuals. Repeated application to the skin of guinea pigs resulted in inflammation and skin absorption affecting the lungs, liver, and kidneys. In two-year studies there was some evidence of carcinogenic activity based on increased incidences of hepatocellular neoplasms in female mice. Dosed rats and mice had varying degrees of inflammation and acanthosis, and exposed rats had ulceration, at the application site.

CUPRIC CARBONATE:
IRRITANT.
ACUTE EXPOSURE- May cause irritation, redness, and pain. Some copper salts have been reported to cause an itching papulovesicular, skin discoloration, and eczematoid lesions.
CHRONIC EXPOSURE- Repeated or prolonged contact with some copper salts has resulted in irritation, necrosis, and greenish skin discoloration.



Allergic contact dermatitis, although rare, has been reported.

FIRST AID- Remove contaminated clothing and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). If burns occur, proceed with the following: Cover affected area securely with sterile, dry, loose-fitting dressing. Treat symptomatically and supportively. Get medical attention immediately.

EYE CONTACT:
POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
ACUTE EXPOSURE- May cause mild irritation with a possible burning sensation.
CHRONIC EXPOSURE- No data available.

ETHANOLAMINE:
CORROSIVE.
ACUTE EXPOSURE- Direct contact with corrosive substances may cause severe irritation, pain, and burns, possibly severe. The degree of injury depends on the concentration and duration of contact. The full extent of the injury may not be immediately apparent.
CHRONIC EXPOSURE- Effects depend on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in conjunctivitis or effects as in acute exposure.

TRIETHANOLAMINE:
IRRITANT.
ACUTE EXPOSURE- Contact may cause irritation, possibly severe. Application of a drop to rabbit eyes caused moderate, transient injury graded 5 on a scale of 1-10 after 24 hours. Continuous application of a 0.023 molar solution adjusted to pH 11 tested on rabbit eyes caused transient irritation with moderate corneal swelling, and hyperemia of the iris and conjunctiva.
CHRONIC EXPOSURE- Repeated or prolonged exposure to irritants may cause conjunctivitis.

CUPRIC CARBONATE:
IRRITANT.
ACUTE EXPOSURE- May cause irritation with redness, pain, and blurred vision. Some copper salts have been reported to cause conjunctivitis, corneal ulcerations, and turbidity possibly with palpebral edema. Copper particles embedded in the eye may result in a pronounced foreign-body response with characteristic discoloration of ocular tissue.
CHRONIC EXPOSURE- No data available.

FIRST AID- Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15-20 minutes). Continue irrigating with normal saline until the pH has returned to normal (30-60 minutes). Cover with sterile bandages. Get medical attention immediately.

INGESTION:
POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
ACUTE EXPOSURE- May cause nausea and diarrhea.
CHRONIC EXPOSURE- No data available.

ETHANOLAMINE:
CORROSIVE.
ACUTE EXPOSURE- May cause abdominal pain, nausea, vomiting and mucosal burns of the mouth and esophagus. There may be discoloration of the tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.
CHRONIC EXPOSURE- Depending on the concentration, repeated ingestion of corrosive substances may cause effects as with acute ingestion. Dose dependent increases in embryotoxicity and lethality (malformation, intrauterine deaths, and intrauterine growth retardation) occurred when pregnant rats were given 500, 300, or 50 mg/kg per day of organogenesis.

TRIETHANOLAMINE:
ACUTE EXPOSURE- Ingestion of several ounces of unneutralized solution may cause alkali burns of the mouth, pharynx, and esophagus, gastrointestinal irritation, abdominal pain, vomiting, and diarrhea. Systemic alkalosis and liver and kidney effects have been reported in animals.
CHRONIC EXPOSURE- Animal studies indicate that prolonged or repeated feeding of triethanolamine has caused alterations in liver and kidney weight, nephrotoxicity, microscopic lesions, and death. As evaluated by RTECS, repeated oral administration to mice resulted in a statistically significant increase in the incidence of lymphoma and carcinogenic tumors of the skin and appendages. The administration of triethanolamine at levels of 1% and 2% in drinking water to 50 male and 50 female mice for 82 weeks produced no dose-related increase in the incidence of tumors in either sex nor did it affect survival rates, organ weights or the occurance of neoplasms as compared to the control group.

CUPRIC CARBONATE:
ACUTE EXPOSURE- May cause sore throat, abdominal pain, diarrhea, and vomiting. Some copper salts have been reported to cause an immediate metallic taste, salivation, epigastric burning, ulcers, hemorrhagic gastritis, anuria, coma, convulsions, and death.

CHRONIC EXPOSURE- Repeated or prolonged ingestion of copper salts has produced hemolytic anemia and liver, kidney, and spleen damage in animals.

FIRST AID- Give large amounts of milk or water immediately. Do not give anything by mouth if person is unconscious or otherwise unable to swallow. If vomiting occurs, keep head lower than hips to help prevent aspiration. Qualified medical personnel should consider the following: Perform gastric lavage (if there is no sign of perforation or corrosive injury). Treat symptomatically and supportively. Get medical attention immediately.

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## REACTIVITY

REACTIVITY:
Stable under normal temperatures and pressures.

INCOMPATIBILITIES:
POLYOXYETHYLENE(DIMETHYLIMINO)ETHYLENE(DIMETHYLIMINO)ETHYLENE DICHLORIDE:
OXIDIZERS (STRONG): Fire and explosion hazard.

ETHANOLAMINE:
ACETIC ACID: Temperature and pressure increase in closed container.
ACETIC ANHYDRIDE: Temperature and pressure increase in closed container.
ACIDS: Temperature and pressure increase in closed container.
ACROLEIN: Temperature and pressure increase in closed container.
ACRYLIC ACID: Temperature and pressure increase in closed container.
ACRYLONITRILE: Temperature and pressure increase in closed container.
ALUMINUM: Corrodes above 100 C.
CELLULOSE NITRATE: Ignites on contact.
CHLOROSULFONIC ACID: Temperature and pressure increase in closed container.
COPPER, COPPER COMPOUNDS, COPPER ALLOYS: Corrodes.
N,N'-DIMETHYL-N,N'DINITROSOTEREPTHALAMIDE: Ignition.
EPICHLOROHYDRIN: Temperature and pressure increase in closed container.
HYDROCHLORIC ACID: Temperature and pressure increase in closed container.
HYDROFLUORIC ACID: Temperature and pressure increase in closed container.
IRON (GALVANIZED): Corrodes.
MESITYL OXIDE: Temperature and pressure increase in closed container.
NITRIC ACID: Temperature and pressure increase in closed container.
OLEUM: Temperature and pressure increase in closed container.
OXIDIZERS: Fire and explosion hazard.
PLASTICS: Corrodes.
BETA-PROPIOLACTONE: Temperature and pressure increase in closed container.
RUBBER: Corrodes.
SULFURIC ACID: Temperature and pressure increase in closed container.
VINYL ACETATE: Temperature and pressure increase in closed container.
See also amines.

AMINES:
ACROLEIN: Exothermic polymerization.
CALCIUM HYPOCHLORITE: Formation of explosive chloroamine.
MALEIC ANHYDRIDE: Explosive decomposition.
NITROSYL PERCHLORATE: Explosive reaction.
SODIUM HYPOCHLORITE: Formation of explosive chloroamine.
TRI-ISO-BUTYL ALUMINUM: Violent reaction.

TRIETHANOLAMINE:
ACIDS (STRONG): Violent reaction.
COPPER (AND ALLOYS): Corrodes.
OXIDIZERS: Fire and explosion hazard.

CUPRIC CARBONATE:
No specific data available.
See specific copper salts.

COPPER SALTS:
ACETYLENE: May form explosive acetylides.
HYDRAZINE: Decomposes.
NITROMETHANE: Forms explosive mixtures.

DECOMPOSITION:
Thermal decomposition products may include toxic oxides of carbon and nitrogen.

POLYMERIZATION:
Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

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## STORAGE AND DISPOSAL

Observe all federal, state and local regulations when storing or disposing of this substance.

**Storage**

Store in a cool, dry place.

Store away from incompatible substances.



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## CONDITIONS TO AVOID

May burn but does not ignite readily. Flammable, poisonous gases may accumulate in tanks and hopper cars. May ignite combustibles (wood, paper, oil, etc.).

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## SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:
Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry.

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## PROTECTIVE EQUIPMENT

VENTILATION:
Provide local exhaust ventilation and/or general dilution ventilation to meet published exposure limits.

RESPIRATOR:
The following respirators are recommended based on information found in the physical data, toxicity and health effects sections. They are ranked in order from minimum to maximum respiratory protection.
The specific respirator selected must be based on contamination levels found in the work place, must be based on the specific operation, must not exceed the working limits of the respirator and must be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA).

Any chemical cartridge respirator with organic vapor cartridge(s) and a full facepiece.

Any gas mask with organic vapor canister (chin-style or front- or back-mounted canister), with a full facepiece.

Any type 'C' supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure mode or with a full facepiece, helmet or hood operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

FOR FIREFIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

CLOTHING:
Employee must wear appropriate protective (impervious) clothing and equipment to prevent any possibility of skin contact with this substance.

GLOVES:
Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION:
Employee must wear splash-proof or dust-resistant safety goggles and a faceshield to prevent contact with this substance.

Emergency wash facilities:
Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.

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-ADDITIONAL INFORMATION-