

ENVIROSAFE MANUFACTURING CORP.™

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MATERIAL SAFETY DATA SHEET ENVIRO ETCH

MSDS PREPARED: 4/27/04

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SECTION 1 - IDENTIFICATION:

TRADE NAME: Enviro Etch

DOT CLASS: Non-Corrosive to skin, **Road or Rail:** Not Regulated,

IATA Air Transportation: Corrosive Liquid, N.O.S. (Urea Monohydrochloride), 8, UN 1760, PG III

CHEMICAL NAME: Mixture, water-based, Organic acid salt

MANUFACTURER: Envirosafe Manufacturing Corp.

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SECTION II - INGREDIENTS:

Monohydrochloride of an acid salt, Proprietary Ingredients Non-ionic biodegradable surfactant

All other components are considered to be non-hazardous as per OSHA 29 CFR

SECTION III - PHYSICAL DATA:

APPEARANCE: PaleYellow/slight odor

BOILING POINT: 100°C/212° F **pH:** <1.0

FREEZING POINT: -30°C

DENSITY (25°C): 8.7 WT. +/- .04

SOLUBILITY IN WATER: Soluble (100% in water)

EVAPORATION RATE: Same as water

% VOLATILE BY VOL: N/A

VAPOR PRESSURE: N/A

VAPOR DENSITY: N/A

SECTION IV - FIRE & EXPLOSIVE DATA:

In case of fire use media applicable for surrounding area.

FLAMMABILITY: Not flammable

FLASH POINT: Does not ignite

EXTINGUISHING MEDIA: Water spray, Carbon Dioxide, and dry chemical

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate personnel to safe area. Keep containers cool with water spray. Avoid breathing decomposition products. Wear self-contained breathing apparatus and full body protection.

UNUSUAL FIRE & EXPLOSION HAZARDOUS: At temperatures above 60°C/140°F acid action on most metals may release hydrogen, a highly flammable and explosive gas.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield oxides, nitrogen and chlorine. Hydrogen gas may be released upon contact with certain metals.

SECTION V - HEALTH HAZARD DATA:

EFFECTS OF OVER EXPOSURE:

INHALATION: Not a likely route of exposure due to physical properties. Product has a low vapor pressure at room temperatures and is not expected to present a significant Inhalation Hazard under ambient conditions. Product can be irritating to the respiratory tract if inhaled as a mist or if the material is vaporized.

EYE CONTACT: Can cause irritation, redness and burns. This product was found to be corrosive to eyes when tested using the Modified Draize method (OECD Guidelines for Testing of Chemicals, Sec. 4-5, 1992)

INGESTION: This product may be harmful or fatal if ingested.

SKIN CONTACT: NON-CORROSIVE to skin (as defined and tested in accordance with the U.S. OSHA's Hazard Communication Standard, DOT Hazardous Material Regulations, Canada's WHMIS Regulations and TDG Regulations. Classified as a mild skin irritant as per the 1992 OECD Guideline for Testing of Chemicals, #404 "Acute Dermal Irritation/Corrosion)

CHRONIC EFFECTS:

SKIN: Prolonged or repeated exposure can cause drying, de-fatting and dermatitis.

CARCINOGENICITY: Non-Hazardous by WHMIS/OSHA criteria. Not listed by IARC, NTP or ACGIH

TERATOGENICITY, MUTAGENICITY, REPRODUCTIVE EFFECTS: This product was found NOT to be mutagenic when tested by the Ames Assay, (OECD Guidelines for Testing of Chemicals, Sec. 471)

SYNERGISTIC MATERIALS: Not available

POTENTIAL ENVIRONMENTAL EFFECTS: No data available

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Enviro Etch

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EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: Immediately flush with water for 15 minutes. Seek medical attention.

SKIN CONTACT: Wash with soap and water. Seek medical attention if irritation develops. Remove contaminated clothing and launder before re-use.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and seek medical attention.

INGESTION: Do NOT induce vomiting. If conscious, give 3-4 glasses of water to dilute. **Seek immediate medical help**

SECTION VI - SPILL OR LEAK HANDLING INFORMATION:

LEAK & SPILL PROCEDURE: Evacuate area. Ventilate area. Collect for disposal. Clean up remaining materials from spill with suitable absorbent. Small spills may be absorbed with non-reactive absorbent (sand) and placed in suitable, covered labeled containers. For large spills, provide diking or other appropriate containment to keep material from spreading. Prevent large spills from entering sewers or waterways. Observe all personal protection equipment recommendations.

PERSONAL PROTECTION: Rubber gloves are recommended. If exposed to material during clean-up operations, see the first-aid procedures for actions to follow.

SECTION VII - STORAGE AND HANDLING:

Storage conditions: KEEP FROM FREEZING. KEEP OUT OF THE REACH OF CHILDREN

DO NOT STORE IN STRONG SUNLIGHT. Do not store in high heat areas. Store in fiberglass, polyethylene or polypropylene containers. Do NOT store in metal containers, especially aluminum. Do not store at temperatures above 48°/140°F

HANDLING –PERSONAL PROTECTION:

ENGINEERING CONTROLS: If current ventilation practices are not adequate for minimizing exposures, additional ventilation or exhaust systems may be required.

RESPIRATORY PROTECTION: Not normally required if good ventilation is maintained. **Avoid breathing vapor and/or mist.**

EYE PROTECTION: Use chemical goggles or full face shield.

SKIN PROTECTION: Use impervious (rubber or nitrile) gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye Bath, Safety Shower, Full Protective Clothing

WORK HYGENIC PRACTICES: The usual precaution for the handling of chemicals must be observed.

SECTION VII: STABILITY AND REACTIVITY

STABILITY: Stable up to 110°C/230°F

CONDITIONS TO AVOID: Heating above 110°C results in an exothermic decomposition with rapid release of CO₂ gas.

INCOMPATIBLE MATERIALS: Avoid contact with oxidizers. This material may be extremely hazardous in contact with chlorates or nitrates. This material is acidic. Contact with hypochlorites (e.g. chlorine bleach, sulfides or cyanides will liberate toxic gases) Contact with alkaline materials (e.g. aqua ammonia) will generate heat.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield oxides of carbon, nitrogen, and chlorine. Hydrogen gas may be released upon contact with certain metals.

HAZARDOUS POLYMERIZATION: Will NOT occur.

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