

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

COMPANY ADDRESS:	EMERGENCY TELEPHONE NUMBERS:
MICRO FLO COMPANY	(800) 424-9300 (CHEMTREC, transportation and spills)
P.O. BOX 772099	(800) 900-4044 (Poison Control Center, human health)
MEMPHIS, TN 38117	(800) 345-4735 (ASPCA, animal health)

PRODUCT NAME : ETHEPHON 2
CHEMICAL NAME : (2-Chloroethyl) phosphonic acid
CHEMICAL FAMILY : ethylene generator
PRODUCT CODE : EPA Reg. No. 51036-243

SECTION 2 - COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACIGH TLV
Ethephon	21.7	16672-87-0	not listed	not listed

SECTION 3 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

EMERGENCY OVERVIEW: Clear liquid with no appreciable odor.

- CORROSIVE! Causes eye and skin damage.
- Harmful if swallowed or inhaled.
- Avoid breathing spray mist.
- Do not get in eyes, on skin or on clothing.
- Keep out of reach of children.

POTENTIAL HEALTH HAZARDS:

EYE - Corrosive. Will cause eye burns and permanent tissue damage. Symptoms include tearing, redness, burning and swelling.

SKIN - Substance is harmful if absorbed through the skin. Large exposures may be fatal. Can cause chemical burn. Symptoms include redness and swelling.

INHALATION - Spray mist concentrations may be harmful. High concentrations may be fatal. Symptoms of overexposure may include choking, coughing and burning of the throat.

INGESTION - Harmful if swallowed. Corrosive, may cause severe and permanent damage to mouth, throat, and stomach. Symptoms of overexposure may include severe irritation of the mouth, throat, esophagus and stomach with severe abdominal and chest pain.

POTENTIAL PHYSICAL HAZARDS: CORROSIVE!

SECTION 4 - FIRST AID MEASURES

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration. Administer oxygen if necessary. Get medical attention.

IF ON SKIN: Immediately wash skin with plenty of soap and water.

IF IN EYES: Hold eyelids open and flush with a gentle stream of water for fifteen minutes. Get physician (if possible, an eye specialist).

IF SWALLOWED: Do not induce vomiting. Promptly drink a large amount of milk, egg whites, gelatin solution or, if these are not available, large amounts of water. Do not drink any alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient. Victims of overexposure by inhalation should be kept under medical observation for up to 72 hours for delayed onset of pulmonary edema. For a victim of overexposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophageal perforation.

ANTIDOTE: This material is an acid, but use of alkaline substances to neutralize it is contraindicated.

SECTION 5 - FIRE FIGHTING MEASURES

FLASHPOINT (method): Noncombustible.

FLAMMABLE LIMITS (LCL-UFL): Not applicable.

FIRE AND EXPLOSION HAZARD: Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

EXTINGUISHING MEDIA: Will not burn. Use appropriate extinguishing media for material that is supplying fuel.

FIREFIGHTING INSTRUCTIONS: Evacuate area and fight fire from a safe distance. Dike and collect water used to fight fire to prevent environmental damage due to run off.

FIREFIGHTING EQUIPMENT: Self-contained breathing apparatus with full face piece. Full firefighting turn-out gear (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS: Hydrogen chloride.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Clean up spills immediately, observing precautions as described in Section 8. Isolate hazard area. Keep unnecessary personnel from entering.

SMALL SPILL: Absorb on absorbent material such as sand, vermiculite or fuller's earth. Place contaminated material in appropriate container for disposal.

LARGE SPILL: Dike large spills using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible. Do not allow any material to run off into soil, drainage systems, or bodies of water. Notify and consult with proper regulatory authorities.

SECTION 7 - HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN!

HANDLING: Avoid contact with eyes, skin, and clothing.

STORAGE: Store in a tightly closed container. Keep away from food and drinking water.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION - Safety goggles.

CLOTHING - Long-sleeved shirt and long pants, shoes plus socks, chemical resistant apron when cleaning equipment, mixing, or loading.

GLOVES - Waterproof gloves.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

1. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
2. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Clear liquid.
ODOR: No appreciable odor.
MOLECULAR WEIGHT: 144.5
MOLECULAR FORMULA: C₂H₆ClO₃P
BOILING POINT: Unknown.
FREEZING POINT: < -20 C
SPECIFIC GRAVITY: 1.1
pH: 1.7
VAPOR PRESSURE: 0.00006 mmHg @ 20 C
% VOLATILE: < 5%
WATER SOLUBILITY: Completely soluble.

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.
CONDITIONS TO AVOID: Avoid temperatures above 335°F(170°C) and pH >3.0.
INCOMPATIBILITY WITH OTHER MATERIALS: Oxidizing agents and alkaline materials. Corrosive to iron, mild steel, aluminum and copper.
HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride during thermal decomposition. Reaction with alkaline materials causes evolution of ethylene gas.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
 Oral LD₅₀ (rat) - 3,200 mg/Kg
 Dermal LD₅₀ (rat) - 1,700 mg/Kg
 Inhalation LC₅₀ (rat) - > 4.9 mg/L
 Eye Irritation (rabbit) - Corrosive, causes irreversible eye damage.
 Skin Irritation (rabbit) - Severe irritant
 Sensitization (guinea pig) - Slight sensitizer
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute asthma and/or other chronic pulmonary diseases due to inhalation of spray mists. Existing skin sensitivities.
CARCINOGEN STATUS:
 OSHA - Not listed.
 NTP - Not listed.
 IARC - Not listed.
MUTAGENIC DATA: No evidence of effects during *in vivo* or *in vitro* studies.
ADDITIONAL DATA: No known to exhibit reproductive or birth defects.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: Do not apply directly to water, or to areas where surface water is present. Do not contaminate water when disposing of equipment washwaters. Do not contaminate water used for irrigation or domestic purposes.
FISH TOXICITY:
 96 hour LC₅₀, Rainbow trout - 350 mg/L.
 96 hour LC₅₀, Bluegill - 300 mg/L.
AVIAN TOXICITY:
 Oral LD₅₀, Bobwhite quail - 1,000 mg/Kg
BEE TOXICITY: Not toxic.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE: Dispose of in accordance with applicable Federal, state and local laws and regulations.
CONTAINER: Triple rinse (or equivalent) the empty containers. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If container is burned, stay out of smoke.

SECTION 14 - TRANSPORT INFORMATION

DOT SHIPPING DESCRIPTION: Corrosive Liquid, Acidic, Organic, N.O.S. (Ethephon),
8, UN 3265, PGIII; ERG#153
DOT HAZARD CLASS: 8
UN NUMBER: UN 3265
DOT PACKING GROUP: PG III
DOT PRIMARY/SUBSIDIARY LABEL: Corrosive
DOT PRIMARY/SUBSIDIARY PLACARD: Corrosive
DOT EMERGENCY RESPONSE GUIDE #: 153

SECTION 15 - REGULATORY INFORMATION

FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act. The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide.

OSHA HAZARD COMMUNICATION STANDARD STATUS: Regulated

CERCLA REPORTABLE QUANTITY: N/A

SARA TITLE III STATUS:

302 Extremely Hazardous Substance	-	No
311/312 Hazard Categories	-	Immediate
313 Toxic Chemicals	-	No

CALIFORNIA PROP 65 STATUS: Not listed

SECTION 16 - OTHER INFORMATION

DISCLAIMER: The information presented herein is based on available data from reliable sources and is correct to the best of Micro Flo's knowledge. Micro Flo makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. We disclaim all liability for injury or damage stemming from any improper use of the material or product described herein.

REVISED DATE: July 14, 1999

REVISED FOR: Addition of Poison Control Emergency Numbers

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