



Hangzhou Tianlong Biotechnology Co., Ltd.

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

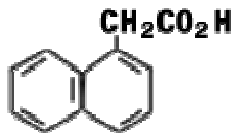
Product Name: Ethephon

Chemical Name: 2-chloroethyl-Phosphonic Acid

Chemical Formulation: C₂H₆ClO₃P

Molecular Weight: 144.50

Molecular Structure:



Chemical Name: 2-chloroethyl-Phosphonic Acid

CAS No.: 16672-87-0

Manufacturer : HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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Section 2 - Composition, Information on Ingredients

CAS#	Component Name	Percent
16672-87-0	ETHEPHON (2-chloroethyl-phosphonic acid)	91%

Section 3 - Hazards Identification

Emergency Overview: Danger! Corrosive to skin and eyes. May be fatal if absorbed through skin. Causes skin burns. Causes eye burns.

Physical State: Solid

Odor: Sweet

Appearance: light yellow ball granual

Immediate Effects

Eye: Corrosive. Liquid or vapor may cause irritation, burns, corneal opacity.

Skin: Corrosive. Causes burns.

Ingestion: Harmful if ingested. May cause burns to mouth and esophagus, chest

	pain, abdominal pain.
Inhalation:	Harmful if inhaled. Mists may cause upper respiratory tract irritation, coughing, sore throat.
Chronic or Delayed Long-Term:	This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens. Prolonged contact can cause chronic bronchitis.
Medical Condition Aggravated by Exposure:	In halation of product may aggravate existing chronic respiratory problem such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

Section 4 - First Aid Measures

Eyes: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferable with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient to a physician and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.

Skin: In case of contact, immediately wash skin with plenty of soap and water for at least 15 minutes. Particular attention should be paid to hair, nose, ears and other areas not easily cleaned. Seek immediate medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned. Heavily contaminated shoes and clothing should be discarded in a manner which limits further exposure. Launder contaminated clothing separately.

Ingestion: If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If the vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Notes to Physician: All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote is available.

Victims of severe overexposure by inhalation should be kept under medical observation for up to 72 hours for delayed onset of pulmonary edema.

This material is an acid. The primary toxicity of this product is due to its irritant properties on mucous surfaces.

In a victim of overexposure by ingestion, careful gastric lavage is required due to the possibility of stomach or esophageal perforation. This material is an acid, but the use of alkaline substances to neutralize is contraindicated.

Section 5 - Fire Fighting Measures

Flash Point: Not applicable.

Auto ignition Temperature: 440°C/824°F

Fire & Explosion Hazards: Under fire conditions, toxic, corrosive fumes may be emitted.

Suitable Extinguishing Media: Not combustible. Use extinguishing method suitable for surrounding fire.

Fire Firefighting Instructions: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Dike areas to prevent runoff and contamination of water sources. Dispose of fire control water later.

Section 6 - Accidental Release Measures

General Information: Evacuation Procedure and Safety: Wear appropriate gear for the situation. See Personal Protection information in Section 8. Cleanup and Disposal of Spill: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup.

Land Spills or Leaks: Containment of Spill: Dike spill using absorbent or impervious material such as earth, sand or clay. Follow procedure under Cleanup and Disposal of Spill.

Environment and Regulatory Reporting: Do not flush to drain. If spilled on the ground, the affected area should be scraped clean and placed in an appropriate container for disposal. Prevent material from entering public sewer system or any waterway.

Section 7 - Handling and Storage

Handling Procedure: Do not get on skin or in eyes. Avoid breathing vapors and mists. Do not ingest. Keep from freezing. If freezing occurs, thaw and remix before using. Mix thoroughly to assure homogeneity.

Storing Procedure: Store in an area away from food, feedstuffs, fertilizers and seed. Product Freezes at 10°C (50°F).

Work/Hygienic Practices: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:
Do not store, use and /or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Wash exposed skin promptly to remove accidental splashes of contact with this material.

Min/Max Storage Temperatures: 0°C/70°C

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Where engineering controls are indicated by use condition of a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposure:

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Face contact should be prevented through use of a face shield.

Body Protection: Skin contact must be prevented through use of permeation resistant clothing, gloves and footwear, selected with regard for use condition and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminations, the following should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standards: air-purifying (half-mask/full-face) respirator with cartridge/canister approved for use against dusts, mists and fumes, pesticides.

Under condition immediately dangerous to life or health, or emergency condition with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

General Protection: These recommendation provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedure should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufactures.

Exposure Limits: None Established

Section 9 - Physical and Chemical Properties

Appearance: light yellow ball granual

Physical State:	Solid
Vapor Pressure:	<0.01mmhg at 25°C
Vapor Density:	Not available.
Specific Gravity:	1.47 at 20°C
Boiling Point:	Not determined
Freezing/Melting Point:	Not determined
Decomposition Temperature:	170 °C
Solubility (in water):	Soluble
Molecular Formula:	C ₂ H ₆ ClO ₃ P
Molecular Weight:	144.5g/mol
Viscosity:	Not available.

Section 10 - Stability and Reactivity

Chemical Stability: This material is stable under normal handling and storage conditions described in Section 7.

Conditions to Avoid: Elevated temperatures.

Incompatibility: Avoid contact with aluminum, zinc, strong acids, strong oxidizing agents and mild steel.

Hazardous Products Decomposition type: Thermal hydrogen chloride.

of Decomposition:

Hazardous Polymerization (Condition to avoid): Not applicable

Section 11 - Toxicological Information

Acute Oral Toxicity: LD50: 3,000 mg/kg in rats

Acute Dermal Toxicity: LD50: 1,500 mg/kg in rabbits

Acute Inhalation Toxicity: Not test data found for product

Acute Respiratory Irritation: Not test data found for product

Skin Irritation: Rabbit: Corrosive

Eye Irritation: Rabbit: Corrosive

No additional data found for product

Assessment Carcinogenicity:

NTP: None

IARC: None

OSHA: None

Section 12 - Ecological Information

Environmental Precautions: Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Section 13 - Disposal Considerations

General Disposal Guidance: Chemical additions, processing otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Container Disposal: 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 burned, stay out of smoke.

Pesticide Disposal: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinse is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

RCRA Classification: Not Regulated under this Statute

Section 14 - Transport Information

	US DOT/IATA
Shipping Name:	Corrosive solid, acidic organic, N.O.S
Hazard Class:	8.0
UN Number:	3261
Packing Group:	II
Hazard Label	Excepted Qty
PIH	N/A
NOS Description	2-chloroethylphosphonic acid

Section 15 - Regulatory Information

U.S. Federal Regulations

- OSHA:** This product is considered hazardous under the OSHA Hazardous Communication Standard (29 CFR 1910.1200)
- TSCA:** All product components are on the TSCA Chemical Inventory.
- CERCLA:** Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to the state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304 and 40 CFR Part 302.
- RCRA:** When a decision is made to discard this material as supplied, it does meet RCRA's characteristic definition of corrosive, but is not listed in 40 CFR 261.33.

SARA TITLE III

302: Not listed

313 Reportable Ingredients: This product does not contain a chemical listed in Section 313

Section 16 - Other information:

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.