



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : Ethephon Technical
CAS No : 16672-87-0
Use : Plant Growth Regulator
Company Info : M/s HPM Chemicals & Fertilizers Ltd
209-210, Anupam Bhawan, Commercial Complex
Azadpur, Delhi-110033
Telephone : (011)-45071800, 899
Fax : (011)- 27681800
Website : www.hpmindia.com
E-mail : info@hpmindia.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition	Concentration
Ethephon a.i.	75.00% min.
Other associates impurities	25.00% max

3. HAZARDS IDENTIFICATION OF PREPARATION

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. N, Dangerous to the environment. C, Corrosive. Hazardous according to the criteria of SWA.

Dangerous according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases:

R34, R20/21, R52/53. Causes burns. Harmful by inhalation and in contact with skin. Harmful to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety Phrases:

S20, S23, S26, S28, S38, S45, S61, S1/2, S24/25, S36/37/39. When using, do not eat or drink. Do not breathe spray mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this MSDS where possible). Avoid release to the environment.

Refer to special instructions/Safety Data Sheets. Keep locked up and out of reach of children. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

SUSMP Classification: S6

ADG Classification: Class 8: Corrosive Substances.

UN Number: 3265, CORROSIVE LIQUID,
ACIDIC, ORGANIC, N.O.S



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4. FIRST AID MEASURES

First Aid Measures:

Remove to fresh air. Remove all contaminated clothing and wash the affected parts of the body thoroughly with plenty of water and soap during 30 minutes. If victim is unconscious and not breathing, apply artificial respiration or oxygenation. Take victim to the nearest medical care center with this sheet

Inhalation:

Remove to fresh air. If stop breathing, apply artificial respiration. If breathing is difficult, immediately call a physician.

Skin contact:

Immediately wash with water and soap during 30 minutes after removing contaminated clothing. In case of effects/symptoms, call a physician. Wash the contaminated clothing prior to reuse them and dispose contaminated shoes.

Eyes contact:

Immediately flush with running water for at least 30 minutes. Call a physician.

Ingestion:

Do not induce vomiting, but do not stop if it happens spontaneously. Immediately call a physician.

Actions to be avoided:

Do not apply mouth to mouth respiration if the patient has swollen the product. Give artificial respiration.

Protection for the first aid givers:

Avoid skin or inhalation contact with the product during the process.

Notes for the physician:

No specific antidote is available. If large amount was swallowed, gastric emptying procedures as gastric lavage may be performed, taking great care to avoid pulmonary aspiration due to the risk of chemical pneumonite. Activated charcoal and saline laxatives may be administered due to probable active ingredients adsorption to activated charcoal. Symptomatic treatment must include, specially, support measures as the correction of hydro electrolytic and metabolic disorders, as well as respiratory aid. The management of hepatic and renal functions must be kept. If in eye, rinse with physiological saline followed by occlusion and lead to ophthalmic evaluation.

5. ACCIDENTIAL RELEASE

Personal precautions: Wear waterproof overalls, safety goggles, rubber boots and nitril rubber or PVC gloves. Respiratory protection must be used depending on the concentrations in the environment or on the extension of the spill/release. In this case, choose self-contained breathing apparatus. Removal of ignition sources: Stop electric energy and turn off the sources that may produce

sparks. Remove all the material that may start a fire (e.g. spilled diesel oil).

Dust control: Isolate and signal the contaminated area. Cover the spill with plastic sheet or spray water on the powder.

Inhalation, skin, mucous membrane and eyes contact prevention:



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Wear the garments and accessories described above.

Environmental precautions:

Avoid contamination of surface waters sealing the entrance of the rain water galleries (culverts). Do not allow the residues of the released product reach water collections.

Cleaning methods:

Stop and collect the spill. Put the residues into a recipient for disposal according to the local regulations.

Clean, preferably with a detergent; avoid using solvents.

Secondary hazards prevention:

Do not allow the product contaminate creeks, lakes, water fountains, wells, sewers, pluvial sewers and effluents.

6. FIRE-FIGHTING MEASURES

FLASHPOINT(method):None

FIRE AND EXPLOSION HAZARD: Minimize use of water to prevent environmental contamination.

EXTINGUISHING MEDIA: Use carbon dioxide, foam, dry chemical or water spray when fighting fires involving this material.

FIREFIGHTING INSTRUCTIONS: Evacuate area and fight fire from a safe distance. Approach from upwind to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers. Foam fire extinguishing system is preferred to prevent environmental damage from excessive water run off. If water is used, avoid heavy hose streams. If possible, dike and collect water used to fight fire to prevent minimize run off.

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

HAZARDOUS COMBUSTION PRODUCTS: CO, Phosphorus oxides and Nitrogen

7. HANDLING AND STORAGE

- Handling** : Use appropriate (impervious) clothing, gloves and closed foot ware to prevent the repeated contact with skin. Use flash proof and dust resistant goggles to prevent the contact with eyes.
- Storage** : Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition



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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Technical protective measures	:	None
Exposure controls limits	:	Not Established
Respiratory protection	:	Wear suitable mask
Hand protection	:	Wear impervious gloves
Eye protection	:	Wear flash proof and dust resistant goggles.
Skin protection	:	Wear impervious clothing and closed foot ware.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Appearance: clear slight brown
Odor: None reported.
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: 4.9
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: -10 deg C
Decomposition Temperature: > 75 deg C
Solubility: soluble
Specific Gravity/Density: 1.4100g/cm³
Molecular Formula: C₂H₆ClO₃P
Molecular Weight: 144.50

10. STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, excess heat, strong oxidants, exposure to moist air or water.

Incompatibilities with Other Materials: Oxidizing agents, moisture.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 16672-87-0: SZ7100000

CAS# 7732-18-5: ZC0110000

LD50/LC50:



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CAS# 16672-87-0:

Inhalation, rat: LC50 = 90 mg/m³/4H;
Oral, mouse: LD50 = 2850 mg/kg;
Oral, rabbit: LD50 = 5 gm/kg;
Oral, rat: LD50 = 3400 mg/kg;
Skin, rabbit: LD50 = 5730 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 16672-87-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

12. ECOTOXICOLOGICAL INFORMATION

Bird: Acute oral LD₅₀ for Japanese quail:2223 mg/kg;

Acute oral LD₅₀for Wild duck:2510mg/kg;

Acute Inhalation LC₅₀ for Japanese quail and Wild duck: >1000 mg/kg

Fish: Acute Inhalation LC₅₀ for Carp:6.8mg/L;

Acute Inhalation LC₅₀ for Rainbow trout:5.3mg/L;

No toxicity to honeybees. Acute oral LD₅₀ and Acute dermal LD₅₀ for honeybees 100pg/bees.

13. DISPOSAL CONSIDERATION

Treatment and disposal methods: Product: Inactivate the product through incineration in ovens designed to this kind of operation, equipped with chambers to wash effluent gases that are according to the competent authority regulations.

Product residues: Keep eventual residues of the product and/or products with expiration date expired in their original packaging, duly closed. Used packaging: The empty packaging must be stored in a covered, ventilated place, protected from the rain and with waterproof floor, as well as contention dikes. Wear gloves when handling these packaging. The final destination of empty packaging can only be done by registering Company or user company or companies legally authorized by the competent authorities. The reuse of the empty packaging is forbidden for the user. They may be recycled if appropriate legislation is obeyed.



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14. TRANSPORT INFORMATION

Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:	8	
UN Number:	3261	
Packing Group:	II	

15. REGULATORY INFORMATION

US FEDERAL

TSCA

CAS# 16672-87-0 is not listed on the TSCA inventory. It is for research and development use only.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPO.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 16672-87-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.



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European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+

Risk Phrases:

R 26 Very toxic by inhalation.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 16672-87-0: 2

CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

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.