



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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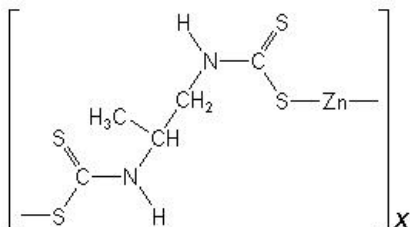
1. Chemical Product Identification

Product Name: Propineb 85% Technical

Molecular Formula: $(C_5H_8N_2S_4Zn)_x$

Molecular Weight: 289.8 g/mol

Structural Formula:



Chemical Name: polymeric zinc propylenebis(dithiocarbamate)

Form: Solid

Color: Off white powder

Odor: slight

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Propineb	12071-83-9	85.0
Balance		15.0

3. Hazards Identification

Harmful by inhalation and if swallowed. May cause sensitization by skin contact. Danger of



serious damage to health by prolonged exposure through inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

4. First Aid Measures

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Material Safety Data Sheet to a doctor.

Swallowed: Seek medical advice immediately. Do not induce vomiting without medical advice. Give 2 glasses of water to drink. Never give anything by mouth to an unconscious person. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

Eye: Immediately flush the contaminated eyes with gently flowing lukewarm water for 15 to 20 minutes, occasionally lifting the upper and lower lids. If irritation persists, seek medical advice.

Skin: Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice. Persons who become sensitized may require specialized medical management with anti-inflammatory agents or cortisone containing emulsions.

Inhaled: Move the victim to fresh air or remove source of contamination. Monitor for respiratory distress. Keep person warm and at rest position. Treat symptomatically and supportively as and when required. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately if necessary.

Advice to physician: No specific antidotes are available. Treat supportively and symptomatically.

If a large amount has been ingested in the last few hours, and if copious vomiting has not already occurred, the stomach must be emptied and steps taken to limit gastrointestinal absorption. If the patient is fully alert and nervous system depression is not anticipated, oral administration of Syrup of Ipecac is probably the best way to empty the stomach

5. Fire-Fighting Measures

Fire Fighting Procedures: Firefighters should wear full protective gear, including self-contained breathing apparatus. If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool.



Whenever possible, contain fire-fighting water by bunding area with sand or earth to prevent it entering any bodies of water.

Hazardous combustion products: Thermal decomposition products may include hydrogen sulfide and carbon disulphide.

Extinguishing Media: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock. Do not use direct jet of water. Avoid water coming in contact with the product. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Stability and Reactivity: Stable under normal conditions of use. No dangerous reaction known under normal conditions of use. Avoid extreme heat and fire. Toxic thermal decomposition products may include hydrogen sulfide and carbon disulphide.

6. Accidental Release Measures

Personal Precautions: Do not breathe in dust or fumes. Avoid contact with skin and eyes. For personal protection see Section 8 and see section 4 regarding First Aid Measures when exposed to material during clean-up operations.

Procedures for dealing with release or spill: Remove all sources of flames and sparks. For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and cover for subsequent disposal and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

7. Handling and Storage

Handling: Wear appropriate protective equipment when handling the product. Do not handle material near food, feed or drinking water. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust and vapour. Avoid high concentrations of dust in air and accumulation of dust on equipment. An airborne dust of this material can create a dust explosion. Use with adequate ventilation to control dust and reduce exposure to vapours. Protect all equipment from explosions.

Storage: Store in original container only in a well-ventilated, cool, dry, secure area. Protect



from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C and prevent product from freezing. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

8. Exposure Controls/Personal Protection

Exposure standards: No occupational exposure standards have been established for the product or its ingredients.

Engineering controls: This product is intended for use outdoors where engineering controls are not necessary. If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Personal Protective Equipment:

Eyes: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin: Where contact is likely, wear chemical-resistant gloves (such as nitrile or butyl), coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Respiratory: A respirator is not normally required when handling this substance.

9. Physical and Chemical Properties

Form: Powder

Color: Off white

Explosive properties: Dust-air mixtures may explode when in contact with moist.

Flash point: Not highly flammable

Partition coefficient (Kow): -0.26

Solubility in water: Practically insoluble in water.

10. Stability and Reactivity

Materials to avoid Acids

Hazardous Decomposition Products: hydrogen sulfide and carbon disulphide.

Hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.



11. Toxicological Information

Acute oral LD50 for rats is >5000 mg/kg.

Acute dermal LD50 for rats is >5000 mg/kg.

Acute inhalation toxicity LC50 (4 h) for rats is > 2.42 mg/L.

Skin irritation: Non-irritating to skin (rabbits).

Eye irritation: Non-irritating to eyes (rabbits).

Skin sensitization for guinea pig: Not a sensitizer.

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD50 for Japanese quail is >5000 mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is 0.33 mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 1.5mg/l.

Effects on algae: Acute 72 hour EC50 for Pseudokirchneriella subcapitata is 0.055 mg/l.

Effects on bees: contact acute 48 hour LD50 is >100 µg/bee, oral acute 48 hour LD50 is >107.9 µg/bee.

Effects on earthworms: Acute 14 day LC50 is >700 mg/kg.

13. Disposal Considerations

Single rinse before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. Puncture and bury empty container in a local authority landfill. If no landfill is available, bury the container below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

14. Transport information

UN No.: 3077

Hazard class: 9

Packing group: III

15. Regulatory Information

Not Applicable



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.