

1. Product and Company Identification

www.rxmarine.com

Product Name Mancozeb 80
Part Number RXSOL-19-9451-025

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone +91 22 20871200 - 1400
Fax +91 22 27612100 ::AOH :0091 9821214367
Email mail@rxmarine.com
Website www.rxmarine.com

2. Composition / Information on ingredients

www.rxmarine.com

Product name	Cas No	EC No	Weight	Formula
Mancozeb 80	8018-01-7	-	271.2	[C ₄ H ₆ MnN ₂ S ₄]XZn

3. Hazards Identification

www.rxmarine.com

Signal Word	Danger
Hazard Statements	Toxicity class Fungicides of low toxicity order. Eye contact: Product dust, mist or vapour may cause mild to moderate irritation. Skin contact: Mild irritation. Skin sensitization reaction may occur in some individuals. Ingestion: Harmful. The target organs for mancozeb are the thyroid gland and the liver. Inhalation: Inhalation of the dust may be irritating to the nose, throat, respiratory tract and lungs
Precautionary statements	Delayed effects: ETU, a trace contaminant and breakdown product of mancozeb, primarily affects the thyroid and liver. It has also caused other endocrine and blood effects, tumors and birth defects in test animals. Environmental Hazard: Product is very toxic to fish and aquatic organisms. Hazardous decomposition products: Product can decompose at high temperatures forming toxic gases
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
Other hazards	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

4. First Aid Measures

www.rxmarine.com

General advice	This product contains mancozeb. No antidote is available. Empty the stomach by gastric lavage. Treat symptomatically and supportively.
If inhaled	Move the victim to fresh air or remove source of contamination. Keep person warm and at rest. Administer artificial respiration if breathing has stopped. Get medical attention immediately if necessary.

Eye Contact	Immediately flush the contaminated eyes with gently flowing cold water for 15 to 20 minutes, occasionally lifting the upper and lower lids. If irritation persists, seek medical advice.
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.
Skin Contact	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.
Inhalation	No data available
Ingestion	No data available
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

www.rxmarine.com

Flammability	No data available
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
Further information	Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Hazardous combustion products	Combustion and/or fire generates products of hydrogen sulfide, carbon dioxide, carbon monoxide, nitrogen oxides, sulfur dioxide and carbon disulfide
Advice for firefighters	Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours. Keep upwind. Remove container from fire area if possible and without risk. Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.
Protective Equipment	Fire-fighters and others that may be exposed should wear full chemical protective clothing and self-contained breathing apparatus. See section 8 for recommendations regarding Exposure Controls/Personal Protection. Fire may produce irritating or poisonous vapours (toxic oxides of carbon, nitrogen and sulphur) of combustion
Specific Hazards Arising from the Chemical	Spontaneous combustion may occur at high temperatures or when exposed to water. Exposure to excessive heat or ignition sources presents a definite ignition hazard. Fire can occur in closely packed, unventilated piles of bags. Exposure to moisture promotes decomposition which can cause spontaneous combustion

6. Accidental Release Measures

www.rxmarine.com

Personal precautions, protective equipment and emergency procedures	Do not breathe in dust or fumes. Avoid contact with skin and eyes. For personal protection see Section 8.
Spillage	No data available

Personal Protection	No data available
Environmental Precaution	Do not allow entering drains or watercourses. Mancozeb is toxic to fish. In case of accidental spill, prevent the material from getting into lakes, rivers and other bodies of water. Isolate discharged material and keep material out of water sources. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.
Methods and materials for containment and cleaning	Keep spectators away and upwind. 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. Dispose of the containers in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not flush spilled material into drains. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not contaminate water while cleaning equipment or disposing of wastes.
Reference to other sections	For disposal see section 13.

7. Handling and Storage

www.rxmarine.com

Advice on safe 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. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination. Local regulations should be complied with.
Conditions for safe storage including any incompatibilities	Store the product in its original labelled container in cool, dry, well-ventilated area, away from heat, sparks and other sources of ignition. No smoking is allowed. Protect the product from temperatures below 00C and above 480C. Product is combustible, do not ignite. Do not allow the product to become wet or overheated in storage, decomposition, impaired activity or fire may result. Check for hot containers and immediately remove to open areas for disposal. Do not store next to food, feed and water supplies. Keep out of reach of unauthorized persons, children and animals. Avoid breaking the containers, spillage or leaks. Comply with the local regulations.
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

www.rxmarine.com

Exposure controls	Provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations
Engineering Control	No data available
Eye/face protection	Use safety goggles and face-shield which is compatible with respiratory equipment. Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, an eye wash fountain or appropriate alternative within the immediate work area for emergency use, must be provided.

Body Protection	Wear appropriate chemical-resistant protective clothing or other impervious clothing. Wear boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing. Wash clothing after use.
Skin protection	Wear appropriate chemical-resistant protective gloves whenever the product is handled to prevent contact with this substance. Wash gloves after use.
Respiratory protection	Wear an approved full-face respirator suitable for protection from dusts and mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed
Other Protection Measure	No data available

9. Physical and chemical properties

www.rxmarine.com

Physical state	Wettable powder.
Colour	Greyish-yellow
Odour	Slightly fishy odour
Odor Threshold	No data available
pH	6 to 7,5 (dispersed at 1%)
Melting Point	Decomposes before melting.
Boiling Point	No data available
Flash Point	No data available
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Explosive limits	No data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	152 OC
Decomposition temperature	No data available
Vapour pressure	No data available
Viscosity	No data available
Density	400 kg/? at 20 O
Relative Density	No data available
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	No data available
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

www.rxmarine.com

Storage stability	Stable for 2 years under normal, dry storage conditions in unopened packages. Avoid extremes of temperature; below 0 OC and above 48 OC. Do not exceed 35 OC in storage of quantities greater than 1 cubic meter. Elevated temperature, moisture and oxygen break down the product and induce flammable and toxic gas.
Chemical stability	Considered stable in unopened original packages, under normal, dry storage conditions. Reacts with acids and oxidizing agents.
Possibilityof hazardous reactions	No data available
Conditions to avoid	No data available
Incompatible materials	Avoid contact with oxidizing agents and acids. Keep away from moisture, heat or flame. Compatible with most commonly used fungicides and insecticides, used at recommended rates. Always perform a compatibility test before using with other products. Do not physically mix concentrate

Hazardous decomposition products

directly with other pesticide concentrates, always dilute first. Not compatible with quaternary agents and sequestering agents.

May yield toxic oxides of carbon, nitrogen and sulphur. Avoid temperatures above 48 OC. Products of hydrogen sulfide, carbon oxides, nitrogen oxides, sulfur dioxide and carbon disulfide form on heating. During processing, dust may form explosive mixture in air. Decomposition by contact with water may generate vapours which can be ignited by heat or open flame

11. Toxicological information

www.rxmarine.com

Acute toxicity

Acute oral LD50: > 5000 mg/kg rats, Acute dermal LD50: > 2000 mg/kg
Acute inhalation LC50: Mancozeb technical: > 5.12mg/? in rats.

Skin corrosion/irritation

The product may cause mild irritation to the skin

Serious eye damage/irritation

The product may cause mild to moderate irritation to the eyes.

Respiratory or skin sensitization

The product may cause mild skin sensitization in humans. Prolonged or repeated contact with skin can cause allergic reactions in susceptible persons

Carcinogenicity

In long-term studies with mice no evidence of carcinogenicity was observed. A two-year feeding study of mancozeb indicated thyroid tumors in rats at a dietary concentration level of 750 ppm. ETU: Two-year feeding studies of ETU produced increased incidence of thyroid and pituitary tumors in rats at dietary concentrations of 83 ppm and higher and also thyroid, pituitary and liver tumors in mice at 330 ppm and higher. Information on the mechanism of these tumors establishes a threshold for the thyroid and pituitary tumors, and indicates that none of these tumor types is relevant for human risk assessment at likely exposure levels

Germ cell mutagenicity

Animal in vitro and in vivo studies with mancozeb and ETU suggest that mancozeb and ETU are not mutagenic in mammalian systems.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Additional Information

No data available

12. Ecological information

www.rxmarine.com

Persistence and degradability

Mancozeb is rapidly degraded in the environment by hydrolysis, oxidation, photolysis, and metabolism. Is strongly adsorbed to soil, and half life in soil is 3 to 11 days (clay and loam soil)

Toxicity to fish

LC50 (96hrs, flow-through): Rainbow trout: 1.0 mg/? Bluegill sunfish: > 3.6 mg/

Toxicity to daphnia and other aquatic invertebrates

Very toxic to daphnia. EC50 (48hrs): < 1 mg/?

Toxicity

Acute LD50: 10 day: Japanese quail: > 5500 mg/kg Mallard duck: > 5500 mg/kg Acute dietary LC50: 8days: Bobwhite quail: > 5200 mg/kg Mallard ducks: > 5200 mg/k

Toxicity to bacteria

No data available

Toxicity to algae

No data available

Bioaccumulation potential

The product shows little tendency to bioaccumulate. Bioaccumulation: log POW = 0.66 (pH 7).

Mobility in soil

The product has low mobility and is not likely to leach.

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine disrupting properties

No data available

Other adverse effects

13. Disposal considerations

www.rxmarine.com

Pesticide and container disposal	Open dumping or burning of this pesticide is prohibited. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Dispose of product waste only in a responsible manner and according to local legislation.
Package product wastes	Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Empty the container of excess product by emptying it over or into the container or mixing tank of the applicator. Destroy the emptied containers by perforation and flattening. Do not re-use the empty container for any other purpose. Do not burn the empty container. Dispose of the empty containers only in a responsible manner and according to local legislation. Comply with any local legislation applying to disposal. Prevent contamination of food, feedstuffs, drinking water and eating utensils
Waste treatment Method	No data available

14. Transport information

www.rxmarine.com

UN number	ADR/RID:3077	IMDG:3077	IATA:3077
UN proper shipping name	ADR/RID:Environmentally Hazardous Substance, Solid, N.O.S. (mancozeb 80%)	IMDG:Environmentally Hazardous Substance, Solid, N.O.S. (mancozeb 80%)	IATA:Environmentally Hazardous Substance, Solid, N.O.S. (mancozeb 80%)
Transport hazard class(es)	ADR/RID:9	IMDG:9	IATA:9
Packaging group	ADR/RID:III	IMDG:III	IATA:III
Environmental hazards	ADR/RID:Yes	IMDG:Yes	IATA:Yes
Special precautions for user	No data available		
Further information	No data available		

15. Regulatory information

www.rxmarine.com

Safety, health and environmental regulations/legislation specific for substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations	Take note of Dir 94/33/EC on the protection of young people at work
Chemical Safety Assessment	A Chemical Safety Assessment has been carried out for this substance.

16. Other information

www.rxmarine.com

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.
-------------------	--

DISCLAIMER OF LIABILITY :The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond

our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.