

CAS No: 12427-38-2  
 RTECS No: OP0700000  
 UN No: 2210  
 EC No: 006-077-00-7

Manganese, ethylenebis(dithiocarbamate)  
 ((1,2-Ethanediybis(carbamodithioato))(2-))manganese  
 Manganese ethylene-1,2-dithiocarbamate  
 $C_4H_6N_2S_4.Mn$   
 Molecular mass: 265.3

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with water.	Carbon dioxide, dry powder. NO hydrous agents. NO water.
<b>EXPLOSION</b>			

EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!	
<b>Inhalation</b>	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest.
<b>Skin</b>	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
<b>Eyes</b>	Redness. Pain.	Safety goggles, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. (Extra personal protection: P2 filter respirator for harmful particles.)	Xi Symbol R: 37-43 S: (2-)8-24/25-46 UN Hazard Class: 4.2 UN Subsidiary Risks: 4.3 UN Pack Group: III Do not transport with food and feedstuffs. Marine pollutant.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-42S2210	Separated from acids, food and feedstuffs. Dry. Well closed. Keep in a well-ventilated room. Store only if stabilized.

### IMPORTANT DATA

**Physical State; Appearance**

YELLOW POWDER OR CRYSTALS

**Chemical dangers**

The substance decomposes on contact with acids and moisture producing toxic and flammable gases including hydrogen sulfide and carbon disulfide.

**Occupational exposure limits**

TLV not established.  
MAK: Sh; (DFG 2003).

**Routes of exposure**

The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

**Inhalation risk**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

**Effects of short-term exposure**

The substance is irritating to the eyes, the skin and the respiratory tract.

**Effects of long-term or repeated exposure**

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the kidneys and central nervous system, resulting in kidney impairment and neurologic, neuropsychiatric disorders (manganism).

### PHYSICAL PROPERTIES

Decomposes below melting point at 192-204°C  
Density: 1.92 g/cm<sup>3</sup>

Solubility in water: very poor

### ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. This substance does enter the environment under normal use. Great care, however, should be given to avoid any additional release, e.g. through inappropriate disposal.

### NOTES

UN number 2968: Haz class 4.3; Pack Group III; Maneb stabilized against self-heating.  
Carrier solvents used in commercial formulations may change physical and toxicological properties.  
Chloroble M, Dithane M 22, Kypman 80, Manebgan, Manesan, Manzate, Polyram M, Rhodianebe, Sopranebe and Trimangol are trade names.

### ADDITIONAL INFORMATION

**LEGAL NOTICE**

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information