

MATERIAL SAFETY DATA SHEET

MERPAN 50 SC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : MERPAN 50 SC
 Chemical name of active ingredient(s) : 1,2,3,6-Tetrahydro-N(trichloromethylthio)phthalimide.
 Chemical formula : Captan: C₉H₈Cl₃NO₂S.
 EU Cat. No. : Captan: 613-044-006.
 Code no. : R-8888.G
 Manufacturer : Makhteshim Chemical Works, Ltd.
 P.O.B. 60, Beer Sheva 84100, Israel
 Fax no.: 972-7-6296848-(364).
 Emergency telephone number : 972-3-6106666
 Subscription no.: 36789 (MAKHTESHIM).

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation.

Information on hazardous ingredients *

Common name	CAS No.	%	EC Number	Symbol	R-Phrases
Captan	133-06-2	500 g/l	205-087-0	Xn	R36-40-43

* Occupational Exposure Limit(s), if available, are listed in section 8

3. HAZARD IDENTIFICATION

Human health hazards : Irritating to eyes.
 May cause sensitization by skin contact.
 Environmental hazards : Toxic to aquatic organisms.

4. FIRST-AID MEASURES

Effects and symptoms

Skin contact : Repeated exposure may cause contact dermatitis.
 Eye contact : Redness, tears.

First-aid measures

Inhalation : Remove victim to fresh air.
 Consult a doctor in the event of any complaints.
 Ingestion : Induce vomiting. Never give anything by mouth to an unconscious person.
 Wash out mouth with water. Consult a doctor.
 Skin contact : Remove contaminated clothing. Wash off with plenty of water and soap.
 Consult a doctor in the event of any complaints.
 Eye contact : Wash off with plenty of water for at least 15 minutes. If pain persists,
 consult an eye specialist.
 Notes to a physician : There is no specific antidote. Treat symptomatically and give supportive
 therapy.
 If ingested perform gastric lavage and administer activated charcoal.

MATERIAL SAFETY DATA SHEET

MERPAN 50 SC

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : In case of a small fire: foam or dry chemical, carbon dioxide.
 In case of a large fire : Water spray, fog or regular foam.
- Special fire-fighting procedures** : Fight fires from a protected location. Dike fire control water for later disposal.
- Hazardous thermal (de)composition products** : CSCl_2 , HCl, SO_x , NO_x , CO, CO_2 .
- Protection of fire-fighters** : Wear suitable protective clothing. Self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Use appropriate protection (see section 8).
- Environmental precautions** : Dispose of this material and its container at hazardous or special waste collection point, If the product has contaminated surface water, inform the appropriate authorities. Contaminated soil layers have to be dug out.
- Methods for cleaning up** : In the event of minor spillage: Absorb in sand or other inert material. Use appropriate containment to avoid environmental contamination.
 In the event of major spillage: Collect and contain as much free liquid as possible. Dike spills using absorbent or impervious materials such as sand or clay for later disposal.

7. HANDLING AND STORAGE

- Handling** : Do not breathe fumes. Avoid contact with skin and eyes.
- Storage** : Keep locked up. Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place.

Packaging materials

- Suitable** : Multi-layer high density polyethylene extrusion blow containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
- Hygiene measures** : Wash hands thoroughly after handling. Wash clothing separately before re-use.
- Occupational Exposure Limits**
- Common name : Captan
- TLV (USA)** : TWA: 5 mg/m³, A3 (1996).
- Personal protective equipment
- Respiratory system** : During spraying wear suitable respiratory equipment.
- Skin and body** : Wear suitable protective clothing and chemical resistant boots.
- Hands** : Wear suitable gloves.
- Eyes** : Safety goggles or face shield.

MATERIAL SAFETY DATA SHEET

MERPAN 50 SC

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid.
Colour	: Off-white.
Odour	: Faint odour (characteristic).
Molecular weight	: Captan: 300.61.
Boiling point	: Captan: Decomposes.
Melting point	: Captan: 158-164°C.
Vapour pressure	: Captan: 2.01×10^{-4} Pa at a temperature of 50°C (Pure).
Specific gravity (H ₂ O=1)	: 1.235-1.270.
Solubility in water	: Captan: Insoluble in water.
Octanol/water partition coefficient	: Captan: $K_{OW} = 610$.
pH	: 3.5-7.5
Flash point	: Not flammable.
Explosion properties	: Not explosive.

10. STABILITY AND REACTIVITY

Stability	: Stable under normal conditions.
Conditions to avoid	: Protect from (sun)light, open flame and sources of heat.
Materials to avoid	: Alkali materials, such as lime and Bordeaux mixture will reduce fungicidal activity.
Hazardous reactions	: Hazardous polymerization will not occur.
Hazardous decomposition products	: $CSCl_2$, HCl, SO_x , NO_x , CO, CO_2 .

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Oral	: $LD_{50} > 6.0$ ml/kg (rat).
Acute toxicity - Dermal	: $LD_{50} > 2.0$ ml/kg (rat).
Acute toxicity - Inhalation	: $LC_{50} > 4.5$ mg/l (rat).
Skin irritation	: Mildly irritating to skin (rabbit).
Eye irritation	: Moderately irritating (rabbit).
Sensitization	: Guinea pig maximization test: Extreme sensitizer.
<u>Common name</u>	: Captan
Carcinogenicity	: A two-year feeding study of Captan indicated duodenal tumors in mice after repeated administration of high dose levels. The NOEL (No Observed Effect Level) was 400 ppm. No evidence of carcinogenicity was observed in long-term studies with rats. Information on the mechanism of these tumors establishes a threshold for the duodenal tumors, and indicates that this tumor type is not relevant for human risk assessment at likely exposure levels.
Mutagenicity	: Not mutagenic (in-vivo tests).
Reproduction toxicity	: Not teratogenic in animal experiments.

12. ECOLOGICAL INFORMATION

MATERIAL SAFETY DATA SHEET

MERPAN 50 SC

Common name : Captan
Mobility : Captan does not leach to ground water.
Persistence/degradability : The product is readily biodegradable.
Bioaccumulative potential : Captan does not bioaccumulate in aquatic organisms.
Ecotoxicity : Toxic to aquatic organisms (fish and algae), in laboratory experiments.
 Low toxicity in actual use, due to its hydrolytic instability.
 LD₅₀ > 2000 mg/kg birds

13. DISPOSAL CONSIDERATIONS

Methods of disposal : Disposal according to the local legislation.

14. TRANSPORT INFORMATION

International transport regulations

UN number : 3082

Land - Road/Railway

Proper shipping name : Environmentally hazardous substance, liquid, N.O.S., Captan.
ADR/RID Class : 9
ADR/RID Item number : 11°C.
Packing group : III
Hazard Identification Number : 90

Inland waterways

Proper shipping name : Environmentally hazardous substance, liquid, N.O.S., Captan.

Sea

Proper shipping name : Environmentally hazardous substance, liquid, N.O.S., Captan.
IMDG Class : 9
IMDG Page number : 9028
Packing group : III

Air

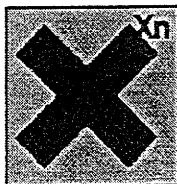
Proper shipping name : Environmentally hazardous substance, liquid, N.O.S., Captan.
UN/ID Number : 3082

National transport regulations

No additional national transport regulations are known to the supplier

15. REGULATORY INFORMATION

Classification : This product is provisionally labelled by the supplier in accordance with the suppliers understanding of the EU regulations:
Hazard symbol(s) : Xn



HARMFUL (Xn)

MATERIAL SAFETY DATA SHEET

MERPAN 50 SC

Risk phrases : R36: Irritating to eyes.
R40: Possible risks of irreversible effects.
R43: May cause sensitization by skin contact.
Safety phrases : S36/37: Wear suitable protective clothing and gloves.
Contains : 500 g/l Captan.

16. OTHER INFORMATION

Recommended use : Fungicide.

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.

HISTORY

Date of printing : 18/03/1999
Date previous issue : 16/09/1998
Date of issue : 18/03/1999
Version : 002.00.00

The version-number is made up of three parts; part 1 is a general information code, part 2 a country-specific code and part 3 a language-specific code