**MATERIAL SAFETY DATA SHEET**
MERPAN 80 WDG**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

Product name : MERPAN 80 WDG
Chemical name of active ingredient(s) : 1,2,3,6-Tetrahydro-N(trichloromethylthio)phthalimide.
Chemical formula : Captan: $C_9H_8Cl_3NO_2S$.
EU Cat. No. : Captan: 613-044-00-6.
Code no. : R-6810.G
Manufacturer : Makhteshim Chemical Works, Ltd.
P.O.B. 60, Beer Sheva 84100, Israel
Fax no.: 972-7-6296848-(364)
Emergency telephone number : Tel Aviv, Israel: +972-3-6106666
Subscription no.: 36789 (MAKHTESHIM). 24-hour/day.

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	80.00	205-087-0	Xn	R36-40-43

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

3. HAZARDS 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.

First-aid measures

Inhalation : Remove victim to fresh air. Keep victim warm and at rest.
If breathing is difficult: give oxygen.
If not breathing: apply artificial respiration.
Get medical attention.

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 80 WDG

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : If involved in fire:
 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.
- Methods for cleaning up** : Collect spilled material with shovel, place into a clean container and cover container loosely.

7. HANDLING AND STORAGE

- Handling** : 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. Keep container dry.
- Packaging materials**
- Suitable** : Low density polyethylene open mouth bags. Woven polypropylene big bags.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state** : Granules.

MATERIAL SAFETY DATA SHEET

MERPAN 80 WDG

Colour	: Light brown.
Odour	: Faint odour (characteristic).
Molecular weight	: Captan: 300.61.
Boiling point	: Captan: Decomposes.
Melting point	: Captan: 158-164°C.
Bulk density	: 650-750 g/l.
Vapour pressure	: Captan: 2.4×10^{-4} Pa at 40°C (Pure).
Solubility in water	: Captan: Insoluble in water.
Octanol/water partition coefficient	: Captan: $K_{OW} = 610$.
Flammability	: Not highly flammable.
Explosion properties	: Not explosive.

10. STABILITY AND REACTIVITY

Stability	: Stable under normal dry conditions.
Conditions to avoid	: Protect from (sun)light, open flame sources of heat and humidity.
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_2 , CO.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Oral	: $LD_{50} > 2000$ mg/kg (rat).
Acute toxicity - Dermal	: MERPAN TECHNICAL: $LD_{50} > 2000$ mg/kg (rat).
Acute toxicity - Inhalation	: Not applicable.
Skin irritation	: Mildly irritating to skin (rabbit).
Eye irritation	: MERPAN TECHNICAL: Irritating to eyes (rabbit).
Sensitization	: MERPAN TECHNICAL: Guinea pig maximization test: 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

<u>Common name</u>	: 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.

MATERIAL SAFETY DATA SHEET

MERPAN 80 WDG

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 : 3077

Land - Road/Railway

Proper shipping name : Environmentally hazardous substance, solid, N.O.S., Captan.
 ADR/RID Class : 9
 ADR/RID Item number : 12^o(c)
 Packing group : III
 Hazard Identification Number : 90

Inland waterways

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

Sea

Proper shipping name : Environmentally hazardous substance, solid, N.O.S., Captan.
 IMDG Class : 9
 IMDG Page number : 9029
 Packing group : III

Air

Proper shipping name : Environmentally hazardous substance, solid, N.O.S., Captan.
 UN/ID Number : 3077

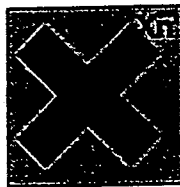
National transport regulations

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)

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 : 80% Captan.

MATERIAL SAFETY DATA SHEET
MERPAN 80 WDG

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

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