



MAKHTESHIM
CHEMICAL WORKS LTD.

MATERIAL SAFETY DATA SHEET

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MERPAN 80 WDG

R-6810.DPD

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

Trade name : MERPAN 80 WDG
Chemical formula : Captan : C₉H₈Cl₃NO₂S,
1,2,3,6-Tetrahydro-N(trichloromethylthio)phthalimide
Use : Fungicide
Company identification : Makhteshim Chemical Works Ltd.
PO Box 60
Beer Sheva 84100 Israel.
Fax : +972-8-6296848
Emergency phone nr : 972-3-6106666 Subscription no. 36789 (Makhteshim)

2. COMPOSITION / INFORMATION ON INGREDIENTS

This product is considered to be hazardous and contains hazardous components.

| Substance name | Value(s) | CAS No | EC No | Index No | Classification |
|---------------------------------|----------|-----------|-----------|--------------|---|
| Captan (ISO) | : 80 % | 133-06-2 | 205-087-0 | 613-044-00-6 | Carc. Cat. 3; R40 T; R23 Xi; R41 R43 N; R50 |
| Condensed naphthalene sulfonate | : ca 8 % | ----- | ----- | ----- | Xi; R36/38 |
| Dialkylnaphthalene sulphonate | : ca 3 % | 1322-93-6 | 215-343-3 | ----- | Xn; R20/22 Xi; R36/37 |

3. HAZARDS IDENTIFICATION

Human Health Hazards : Irritating to eyes.
Limited evidence of a carcinogenic effect.
May cause sensitization by skin contact.
Environmental hazard : Very toxic to aquatic organisms.

4. FIRST AID MEASURES

Undesirable human health effects

Skin contact : Repeated exposure may cause contact dermatitis.
First aid
Inhalation : Remove victim to fresh air. Keep victim warm and at rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.
Ingestion : Do not induce vomiting. Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Consult a doctor.
Skin contact : Remove affected clothing and wash all exposed skin area with soap and water, followed by warm water rinse. Consult a doctor in the event of any complaints.
Eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes. If pain persists, consult an eye specialist.
Note to physician : No specific antidote known. Treat symptomatically and give supportive therapy. If ingested perform gastric lavage and administer activated charcoal.

5. FIRE-FIGHTING MEASURES

Extinguishing media : For small fire : foam , dry chemical , carbon dioxide .
For large fire: foam , water fog , water spray .
Special procedures : Fight fires from a protected location . Dike fire control water for later disposal.
Special exposure hazards : Thermal decomposition generates : carbon dioxide , carbon monoxide , nitrogen oxides , sulfur oxide , hydrogen chloride , CSCI₂ .

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5. FIRE-FIGHTING MEASURES (continued)

Protection against fire : Wear proper protective equipment. 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.
After spillage and/or leakage : 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 .
Packing : Woven polypropylene big bags .
Low density polyethylene open mouth bags .

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Industrial hygiene : Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower . Wash clothing before re-using. Wash hands thoroughly after handling.
Occupational Exposure Limits
TLV-TWA [mg/m3] : (USA) Captan : 5 , A3 (1996)
Personal protection
- **Respiratory protection** : During spraying wear suitable respiratory equipment.
- **Skin protection** : Wear suitable protective clothing and chemical resistant boots .
- **Hand protection** : Wear suitable gloves.
- **Eye protection** : Chemical goggles or face shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Granules
Colour : Light brown
Odour : Faint odour (Characteristic)
Molecular weight : Captan : 300.61
Melting point [°C] : Captan : 158 - 164
Final boiling point [°C] : Captan: Decomposes
Bulk density : 650-750 g/l
Vapour pressure : Captan : 2.4 x (10)⁻⁴ Pa (40°C - Pure)
Solubility in water : Captan: Insoluble
Flammability : Not flammable
Explosion limits : Not explosive
Log P octanol : Captan : KOW = 610



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10. STABILITY AND REACTIVITY

- Physico-chemical stability** : Stable under normal conditions.
Hazardous decomposition products : Thermal decomposition generates : carbon dioxide , carbon monoxide , nitrogen oxides , sulfur oxide , hydrogen chloride , CSCl₂ .
Hazardous reactions : Alkali materials, such as lime and Bordeaux mixture will reduce fungicidal activity .
Hazardous Polymerization : Will not occur.
Conditions to avoid : Protect from (sun)light , sources of heat , open flame , moisture .

11. TOXICOLOGICAL INFORMATION

- Rat oral LD50 [mg/kg]** : > 2000
Rat dermal LD50 [mg/kg] : > 5000
Rat inhalation LC50 [mg/l/4h] : Not applicable
Dermal irritation (rabbit) : Mildly irritating
Eyes irritation (rabbit) : Moderately irritating
Sensitization : Merpan Technical: Guinea pig maximization test: Extreme sensitizer
Carcinogenicity : Captan : 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 : Captan : Not mutagenic (in-vivo)
Reproductive toxicity : Captan : Not teratogenic in animal experiments

12. ECOLOGICAL INFORMATION

- Ecological effects information** : The data below are for Captan :
Toxic to aquatic organisms (fish and algae), in laboratory experiments .
Low toxicity in actual use, due to its hydrolytic instability .
LD50 Birds [mg/kg] : > 2000
Persistence and degradability : The product is readily biodegradable .
Mobility : Product does not leach to ground water.
Bioaccumulative potential : Captan does not bioaccumulate in aquatic organisms

13. DISPOSAL CONSIDERATIONS

- Disposal** : Avoid release to the environment.
Dispose in a safe manner in accordance with local/national regulations.

14. TRANSPORT INFORMATION

- **UN No.** : 3077
- **Proper shipping name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (80% Captan)
- **Packing group** : III
- **Class** : 9
- **H.I. nr** : 90
- **IMDG-Marine pollution** : No

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15. REGULATORY INFORMATION

EU Classification : This product is provisionally labelled by the supplier in accordance with the suppliers understanding of the EU regulations :

Symbol(s)



R Phrase(s)

: Xn: Harmful.
N: Dangerous for the environment.

S Phrase(s)

: R36 - Irritating to eyes.
R40 - Limited evidence of a carcinogenic effect.
R43 - May cause sensitization by skin contact.
R50 - Very toxic to aquatic organisms.

: S02 - Keep out of the reach of children.
S13 - Keep away from food, drink and animal feedingstuffs.
S20/21 - When using, do not eat, drink or smoke.
S24/25 - Avoid contact with skin and eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S35 - This material and its container must be disposed of in a safe way.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.
S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

Recommended uses and restrictions : None.

Text of R-phrases in heading 2

: R20/22 - Harmful by inhalation and if swallowed.
R23 - Toxic by inhalation.
R36/37 - Irritating to eyes and respiratory system.
R36/38 - Irritating to eyes and skin.
R40 - Limited evidence of a carcinogenic effect.
R41 - Risk of serious damage to eyes.
R43 - May cause sensitization by skin contact.
R50 - Very toxic to aquatic organisms.

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