



CHRONOS 450 SC

R-10804.DPD

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

Trade name : CHRONOS 450 SC
Common name of active ingredients : Prochloraz
Chemical formula : Prochloraz : C₁₅H₁₆Cl₃N₃O₂, N-propyl-N-[2-(2,4,6-trichlorophenoxy) ethyl] -1H-imidazole-1-carboxamide (CA)
Use : Fungicide
Company identification : Makhteshim Agan SA (Pty) Ltd
PO Box 498
21 Viben Street
Brackenfell 7561
Emergency phone nr : (021) 982 1460

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
Prochloraz-Zn	450 g/l (Prochloraz)	137001-93-5	-----	-----	

3. HAZARDS IDENTIFICATION

Human Health Hazards : No human health hazards have been reported or known
Environmental hazard : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

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. Consult a doctor in the event of any complaints.
Ingestion : Do not induce vomiting. Wash out mouth with 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 : Wash off with plenty of water. 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 : Water spray , water fog , foam .
Special procedures : Fight fires from a protected location. Dike fire control water for later disposal.
Special exposure hazards : Thermal decomposition generates : zinc oxide , nitrogen oxides , carbon monoxide , carbon dioxide , chlorides .
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, in accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. Contaminated soil layers have to be dug out.



CHRONOS 450 SC

R-10804.DPD

6. ACCIDENTAL RELEASE MEASURES (continued)

After spillage and/or leakage : 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 (<40°C).

Packing : Drums with polyethylene liner.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Industrial hygiene : Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower. Wash hands thoroughly after handling. Wash clothing before re-using.

Occupational Exposure Limits
TLV-TWA [mg/m3] : (USA) Prochloraz : Not established

Personal protection

- **Respiratory protection** : During spraying wear suitable respiratory equipment.
- **Skin protection** : Wear protective clothing
- **Hand protection** : Wear suitable gloves.
- **Eye protection** : Chemical goggles or safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid

Colour : Off-white

Odour : characteristic

pH value : 6-8

Molecular weight : Prochloraz-Zn : 889.7

Melting point [°C] : Prochloraz-Zn : 102.5-105.0

Vapour pressure : Prochloraz-Zn : < 8.8 X (10)⁻⁵ Pa (25°C) (Pure)

Solubility in water : Prochloraz : 25 mg/l at a temperature of 25 °C (Pure)

Flash point [°C] : Not applicable

Explosion limits : Not explosive

Log P octanol : Prochloraz : 4.06

10. STABILITY AND REACTIVITY

Physico-chemical stability : Stable under normal conditions.

Hazardous decomposition products : Thermal decomposition generates : zinc oxide , nitrogen oxides , carbon monoxide , carbon dioxide , hydrogen chloride .

Hazardous reactions : Hazardous polymerization will not occur

Materials to avoid : Avoid contact with : strong acids , strong bases .

Conditions to avoid : Protect from (sun)light , open flame and sources of heat .
Decomposes upon heating.



CHRONOS 450 SC

R-10804.DPD

11. TOXICOLOGICAL INFORMATION

Rat oral LD50 [mg/kg]	: > 2000
Rat dermal LD50 [mg/kg]	: > 2000
Rat inhalation LC50 [mg/l/4h]	: Prochloraz Technical: > 2.41. Maximum concentration attainable (Not adequate for classification)
Dermal irritation (rabbit)	: Not irritant
Eyes irritation (rabbit)	: Not irritating
Sensitization	: Guinea pig maximization test: Non sensitizer
Carcinogenicity	: Prochloraz : Not carcinogenic (rat)
Mutagenicity	: Prochloraz : Not mutagenic
Reproductive toxicity	: Prochloraz : Not teratogenic in animal experiments

12. ECOLOGICAL INFORMATION

Ecological effects information	: The data below are for Prochloraz :
96 H-LC50 - Rainbow trout [mg/l]	: 1.43
48 H-EC50 - Daphnia magna [mg/l]	: 0.85
72 H-EbC50 - Algae [mg/l]	: 0.28
72 H-ErC50 - Algae [mg/l]	: 1.19
LD50 Birds [mg/kg]	: > 2000
Bees LD50 [µg/Bee]	: Not toxic to bees
Persistence and degradability	: Rapidly degrades when exposed to sunlight and UV light
Mobility	: Product does not leach to ground water.

13. DISPOSAL CONSIDERATIONS

Disposal	: Dispose in a safe manner in accordance with local/national regulations.
----------	---

14. TRANSPORT INFORMATION

- UN No.	: 3082
- Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (450 g/l Prochloraz)
- Packing group	: III
- Class	: 9
- H.I. nr :	: 90
- ADR/RID	
- ADR class	: 9
- ADR Packing group	: III
- IMDG-Marine pollution	: No

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Prochloraz-Zn)

15. REGULATORY INFORMATION

EU Classification	: This product is provisionally labelled by the supplier in accordance to the EU regulations;
-------------------	---



MAKHTESHIM
CHEMICAL WORKS LTD.

MATERIAL SAFETY DATA SHEET

Page : 4 of 4

Revised edition no : 3

Date : 25/9/2005

Supersedes : 7/4/2005

CHRONOS 450 SC

R-10804.DPD

15. REGULATORY INFORMATION (continued)

Symbol(s)



R Phrase(s)

S Phrase(s)

- : N: Dangerous for the environment.
- : R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- : 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.
- : S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. OTHER INFORMATION

Recommended uses and restrictions : None.

Print date : 6/7/2006

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.

End of document

Makhteshim Chemical Works Ltd.

PO Box 60 Beer Sheva 84100 Israel.

Fax : +972-8-6296848