

Material Safety Data Sheet



Issue No.: 2	1 st Edition: September 2005	Revision date: September 2008
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1. Identification of the material/supplier

Product Name: **ICA IMAZALIL Technical Material (Free Base)**
Other names: Imazalil; Enilconazole
Recommended Use: Technical material used to formulate fungicides to control plant diseases.
Supplier: ICA International Chemicals (Pty) Ltd
Address: 28 Planken Street
Plankenbrug Industrial
STELLENBOSCH · 7600 · SOUTH AFRICA
Telephone No.: +27 (0) 21 886 9812
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2. Hazard Identification

Hazard Symbol: Xn
Indication of Danger: Harmful
Risk Phrases: R20/22 - Harmful by inhalation and if swallowed
R41 - Risk serious damage to eyes
R50 - Very toxic to aquatic organisms
Safety Phrases: S2 - Keep out of reach of children
S25/26/39 - Avoid contact with eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye protection.
S60/61 - This material and its container must be disposed of hazardous waste. Avoid release to the environment

3. Composition/information on ingredients

INGREDIENT(S)	CAS NO.:	Classification	Proportion
±-1-[β-Allyloxy-2,4-Dichlorophenylethyl)imidazole [Imazalil (ISO)]	35554-44-0 / 73790-28-0	<u>Classification:</u> Xn; R: 20/22; 41 S: (2); 26; 39; 60/61 <u>Labelling:</u> Xn, N; R: 20/22; 41; 50/53 S: (2); 26; 39; 60/61	97 - 99%
Other non-hazardous components			To 100%

4. First Aid Measures

SHOW THIS MATERIAL AND SAFETY DATA SHEET TO A DOCTOR.

Types of Hazard / Exposure	Acute Symptoms	Prevention	First Aid
ORAL (INGESTION):	Nausea and bitter after taste that will last for hours.	DO NOT eat, drink or smoke during work. Wash hands before eating	Rinse mouth. Refer for medical attention.
SKIN	May cause sensitisation by skin contact.	Wear chemical resistant gloves	Remove contaminated clothes. Rinse skin with plenty of water or shower.

Types of Hazard / Exposure	Acute Symptoms	Prevention	First Aid
EYES	Redness and pain Irreversible effects on the eye; highly irritating to the eye.	Wear safety goggles	Rinse eyes IMMEDIATELY with plenty of water for several minutes. Hold eyelids apart. Remove contact lenses if easily possible. Get medical attention.
INHALATION	DO NOT inhale spray mist or smoke.	Self-contained breathing apparatus	Move to fresh air, rest. Get medical attention if breathing gets worse.

5. Fire Fighting measures

SMALL FIRES:

- This product was classified “not combustible” and “not highly flammable”.
- Dry chemical, CO2 or water spray.

LARGE FIRES:

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.
- Use water spray or fog; do not use straight streams.

Hazards Gives off irritating or toxic fumes in a fire.

Precautions for fire fighters and special protective equipment Chemical protection suit including self-contained breathing apparatus. Prevent people from exposure to smoke and fumes.

6. ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK:

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak or cover with plastic sheet to prevent spreading/leaking.
- Sweep spilled substance into sealable containers.
- Carefully collect remainder, then remove to safe place.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:

- Keep separated from food and feedstuffs.
- Keep containers well closed.

ROUTES OF EXPOSURE:

- The substance can be absorbed into the body by inhalation and by ingestion.
- Always store pesticides in their original containers. *Never* transfer pesticides to soft drink bottles or *ANY* other containers. Children or others may mistake them for something to eat or drink.
- Keep out of reach of children.

INHALATION RISK:

- A harmful concentration of airborne particles can be reached quickly on spraying. Keep in well ventilated area.

CONDITIONS FOR SAFE STORAGE

- DO NOT re-use the container for any other purpose.
- Use plastic containers. Avoid metal.
- Make provision to contain effluent from fire extinguishing.
- Keep separated from food and feedstuffs. Well closed. Keep in a well-ventilated room and secure area. Do not store in direct sunlight.
- Keep away from children.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:	TLV not established
ENGINEERING CONTROLS:	Facilities should be equipped with an eyewash facility and a safety shower.
PERSONAL PROTECTIVE EQUIPMENT:	EYES: Safety goggles or face shield. GLOVES: Wear chemical resistant PVC gloves. RESPIRATORY: If inhalation of spray mist is likely to occur wear a self-contained breathing apparatus. Use in well ventilated area ONLY. In case of insufficient ventilation, wear suitable respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE (colour, physical form:)	Cream to brown fine homogeneous crystalline powder
ODOUR:	Almost no odour
pH:	5.5 - 8
VAPOUR PRESSURE:	0.204×10^{-3} Pa at 20°C
BOILING POINT:	Calculated to be 319°C
MELTING POINT:	51.2°C (collapse); 52.5°C (liquefaction)
SOLUBILITY IN WATER:	pH 7.00 = 0.198 ± 0.0002 g/ℓ at 20°C pH 5.09 = 1.26 ± 0.0029 g/ℓ at 20°C
FLASH POINT:	Not highly flammable (192°C)
OCTANOL/WATER PARTITION COEFFICIENT:	Log P _{ow} = 3.79 ± 0.01
COMPATIBILITY:	Not compatible with oxidising materials

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Imazalil is moderately water soluble, very stable to hydrolysis, photo degrades relatively rapidly, degrades very slowly in soil under aerobic conditions, is immobile in soils. Not expected to volatilize.
CONDITIONS TO AVOID:	Protect from sunlight, open flames and heat sources. Decomposes upon heating.
INCOMPATIBLE MATERIALS:	OXIDISING materials
HAZARDOUS DECOMPOSITION PRODUCTS:	The substance decomposes on distillation or on burning producing toxic fumes of nitrogen oxides and chloride.

11. TOXICOLOGICAL INFORMATION

ANIMAL ACUTE TOXICITY DATA (PRODUCT)		
ORAL:	LD ₅₀ (rat)	500mg/kg
DERMAL:	LD ₅₀ (rat)	>2000mg/kg
INHALATION:	LC ₅₀ rat	>2.802 mg/L air (Category 4)
DERMAL IRRITATION:	Rabbit (OECD 404)	Not classified as a skin irritant
EYE IRRITATION:	Rabbit (OECD 405)	Irreversible effects on the eye
SENSITISATION:	Guinea pig	May cause sensitisation by skin contact
CHRONIC TOXICITY:	Oral dog	NOAEL = 2.5mg/kg bw per day
MUTAGENICITY:		Non-teratogenic, non mutagenic

12. ECOLOGICAL INFORMATION:

The substance is **VERY TOXIC TO AQUATIC ORGANISMS**.
Avoid release to the environment in circumstances
DIFFERENT FROM NORMAL USE.

ECOTOXICITY:	Fish:	<ul style="list-style-type: none">LC₅₀ (96hr) = 1.48mg/L (Rainbow trout)Bioaccumulation = BCF 48.7 to 63.8 (Rainbow trout)
	Bees	<ul style="list-style-type: none">Not toxic to bees.Acute contact (product) LD₅₀ = 39mg/bee (48 hours)(Honey bee)Acute oral toxicity LD₅₀ = 35.1mg/bee (48 hours)(Honey bee)
	Birds	<ul style="list-style-type: none">Not hazardous to birds.5-day Dietary toxicity LD₅₀ > 5620 mg/kg food (mallard duck)
	Earthworms	<ul style="list-style-type: none">Acute toxicity LC₅₀ > 541 mg/kg soil
	ECOLOGICAL FATE & RISKS:	<ul style="list-style-type: none">The use of currently registered products containing imazalil in accordance with approved labelling will not pose unreasonable risks or adverse effects to humans or the environment.

13. DISPOSAL CONSIDERATIONS:

Do not use fungicide containers or packaging material for storing water or food. Triple or preferable pressure rinse empty containers with clean water before disposal. Add rinsing to spray/mixing tank. Do not dispose of undiluted chemical on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. IF NOT recycling, break crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of any water source (river, dam, spring, or borehole). Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION:

UN NUMBER:	2902
PROPER SHIPPING NAME:	Pesticide, solid, toxic n.o.s.
CLASS AND SUBSIDIARY RISK(S):	Xn; R20/R22
PACKING GROUP:	III (minor danger)
HAZCHEM CODE:	Non allocated

15. REGULATORY INFORMATION:

16. OTHER INFORMATION

This Material and Safety Data Sheet replace the previous version dated September 2005.

Reason for update: To conform to the SABS ISO 11014-1: 1994 standard of the 16 Header Format.

This information concerns only the product conforming to its specifications and limits to the uses herein stated. This sheet complements the technical sheet of use but does not replace it. The information contained on this sheet is based on knowledge of the product on date of publication. It is given in good faith.

The data does not signify any warranty with regard to the product properties. This Material Safety Data Sheet (MSDS) summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how to prevent accidents in the normal workplace including in conjunction with other products. Care for the environment is essential for our future.

Abbreviations and Acronyms:	ADG:	Australian Dangerous Goods Code, Rail & road 6 th edition
	CAS Number:	Chemical Abstract Service Registry Number
	NOHSC:	National Occupational Health and Safety Commission

END of MSDS