



INDOFIL INDUSTRIES LIMITED
 KOLSHET, OFF SWAMI VIVEKANAND ROAD,
 AZAD NAGAR, SANDOZ BAUG P.O.,
 THANE – 400 607. MAHARASHTRA (INDIA)
 TEL. NO. : 00-91-22- 67999100
 FAX NO. : 00-91-22-2589 83 57 / 59

2-R&D-MSDS-AGRO-FP-536

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

Chemical Name	DIFENOCONAZOLE 25% EC	Company Identification INDOFIL INDUSTRIES LIMITED KOLSHET, OFF SWAMI VIVEKANAND ROAD, AZAD NAGAR, SANDOZ BAUG P.O., THANE – 400 607. MAHARASHTRA (INDIA) TEL. NO. : 00-91-22- 67999100 FAX NO. : 00-91-22-2589 83 57 / 59
Trade Name	Ammbe	
Synonyms	Difenoconazole	GROUP: Conazole
IUPAC Name	3-chloro-4- [(2 <i>RS</i> ,4 <i>RS</i> ;2 <i>RS</i> ,4 <i>SR</i>)-4-methyl- 2-(1 <i>H</i> -1,2,4-triazol-1-ylmethyl)- 1,3-dioxolan-2-yl]phenyl 4- chlorophenyl ether	
CAS Number	119446-68-3	CLASS : Fungicide
Formula	C ₁₉ H ₁₇ Cl ₂ N ₃ O ₃	

SECTION 2: COMPOSITION / INFORMATION OF INGREDIENTS

COMPONENT NAME	CAS REGISTRY NO	CONCENTRATION
DIFENOCONAZOLE	119446-68-3	25 %
Inert ingredients	-----	75%

SECTION 3: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****Physical state** : Liquid**Colour** : Yellow To Brown**INGESTION** : Harmful if swallowed**INHALATION** : Harmful if inhaled**EYE CONTACT** : May cause irritation to eyes**SKIN CONTACT:** May cause irritation**DELAYED EFFECTS:** No delayed effects known.

IMMEDIATE HEALTH EFFECTS

Eye contact	Slightly irritation to eyes
Skin contact	Irritation to skin. May cause sensitization by skin contact
Ingestion	Harmful if swallowed
Inhalation	Harmful if inhaled

DELAYED OR OTHER HEALTH EFFECTS

Target organs	No data .
An "X" in the box adjacent to the hazard title indicates OSHA Hazard classification. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication standard (29 CFR 1910.1200)	
OSHA Health Hazard Classification	OSHA Physical Hazard Classification

Toxic <input type="checkbox"/>	Highly Toxic <input type="checkbox"/>	Flammable <input type="checkbox"/>	Oxidizer <input type="checkbox"/>
Irritant <input type="checkbox"/>	Sensitizer <input type="checkbox"/>	Combustible <input type="checkbox"/>	
Corrosive <input type="checkbox"/>	Carcinogenic <input type="checkbox"/>	Explosive <input type="checkbox"/>	Organic Peroxide <input type="checkbox"/>
		Pyrophoric <input type="checkbox"/>	unstable <input type="checkbox"/>
		Organic peroxide <input type="checkbox"/>	water-reactive <input type="checkbox"/>

SECTION 4: FIRST AID MEASURES

Eye	Irrigate the eyes with large amount of water or normal saline occasionally lifting upper and lower lids until no evidence of chemical remains and obtain a medical help.
Skin	Remove contaminated clothing and shoes immediately. Wash contaminated area with soap or mild detergent and large amount of water until no effects of chemical remains. If symptoms persist get medical help.
Ingestion	If swallowed, set medical attention immediately. Do not induce vomiting.
Inhalation	Remove the patient from the exposure area to fresh air immediately. If breathing has stopped perform the artificial respiration. Keep person warm and rest. Get medical attention immediately.
Notes to physician	No specific antidote. Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

NFPA Flammability Classification	-----
NFPA RATINGS	Health: 1 Flammability : -- Reactivity:----
OSHA classification	No data

Flash point	40°C
Flammability (Explosive limits)	NA
Auto ignition Temperature	Not available.
Hazardous Combustion products	This product contains combustible organic components that may burn and decompose during a fire producing dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.
Extinguishing Media	For small fires use water spray, alcohol-resistant foam, dry chemical or carbon dioxide extinguisher. DO NOT use direct jet of water. For larger fire, use water spray, fog or alcohol resistant standard foam.
Protection of Fire Fighters	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Special Properties	Avoid breathing fumes from fire exposed material.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Protective Measures	Ensure suitable personal protection during removal of spillages. This means wearing a face mask that gives protection against organic vapours, eye protection, chemically resistant gloves, boots and coveralls.
Spill Management	Absorb the material in the sand, soil, diatomaceous earth or suitable absorbent. Place in suitable material and remove to safe place or dispose of in an incinerator approved for chemicals.

SECTION 7: HANDLING AND STORAGE

Handling & Storage procedure	Use appropriate (impervious) clothing, gloves and closed footwear to prevent the repeated contact with skin. Use flash proof and dust resistant goggles to prevent the contact with eyes. Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition. Do not store for prolonged periods in direct sunlight.
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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls	Ventilation: Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. Use mechanical exhaust ventilation at sources of air contamination such as open process equipment.
Personal Protective Equipment	Eye / face Protection: Safety Glasses or goggles. Skin protection: Avoid skin contact. Rubber gloves should be worn whenever this material is handled. Wash hands with clean water. Body protection: Avoid skin contact Wear impervious clothing and closed foot ware. Respiratory Protection: Wear suitable mask .

Occupational exposure limits (exposure limit information)

Component	Limit	TWA	STEL	Ceiling	Notation
Difenoconazole	OSHA	No data	No data	No data	No data
	ACGIH				

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	Colour	Yellow To Brown
Odour	Solvent	pH	4 To 10 (1% in water)
Specific gravity Bulk density	0.99-1.01 g/cm ³	Solubility in water	Forms emulsion in water
Vapor pressure	Not applicable	Vapor density	Not applicable
Viscosity	Not applicable	Boiling point	> 220°C
Melting / Freezing point	76°C Technical	Evaporation rate	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Chemical stability	This material is chemically stable under normal and anticipated storage and handling conditions.
Conditions to Avoid	Excessive temperatures.
Material Incompatibility	Incompatible with the alkaline material.
Hazardous Decomposition Products	Decomposition will evolve toxic and irritant vapors.
Hazardous Polymerization	Hazardous polymerization does not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Oral toxicity LD ₅₀	GHS Category 5
Acute Dermal toxicity LD ₅₀	> 2000 mg/kg for rats
Acute Inhalation toxicity LD ₅₀	>5.150 mg/l
Eye irritation (Rabbit) :	Mild-irritating
Skin irritation(Rabbit) :	Mild-irritating
Skin Sensitization(Guinea Pig):	Not a skin sensitizer

SECTION 12: ECOLOGICAL INFORMATION**(Assessment largely or completely based on data for Difenoconazole Active Substance)**

Eco-toxicity:	
Fish LC ₅₀ (96 h)	Rainbow Trout 0.81 mg/l ; Bluegill sunfish 1.2 mg/l

Algae EC ₅₀ (72 hr)	<i>Scedesmus subspicatus</i> 0.032-1.2 mg /l
Daphnia EC ₅₀ (48 hr)	0.77 mg/l
Bird	
Acute Oral, LD ₅₀	Japanese quail > 2000 mg/kg
	Mallard duck > 2150 mg/kg
Honey Bee	Non-toxic to bees
LD ₅₀ (Oral)	> 187 µg/bee;
LD ₅₀ (Contact)	>1 00 µg/bee.
Earth worm	
LC ₅₀ (14 d)	610 mg/kg
Environmental Fate	After oral administration, it rapidly eliminated practically to entirety, with urine and faeces. Residues in tissues were not significant and there was no evidence for accumulation.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL PROCEDURES: Waste disposal should be in accordance with existing federal, state and local environmental regulations. Dispose of empty, used containers in approved incineration plant in approved land filling area or in a disposal pit away from desirable plants and their roots and water courses. On-site disposal of undiluted product is unacceptable

SECTION 14: TRANSPORT INFORMATION

UN number	3082
Shipping Name	Environmentally Hazardous Substance, Liquid, N.O.S. (Difenoconazole)
Class	9
Packaging group	III
Marine pollutant	Yes

SECTION 15: REGULATORY INFORMATION

Work place classification	Hazard categories under criteria of SARA Title III rules (40 CFR part 370) Immediate acute health Y Delayed chronic health N Fire N Reactive N Sudden Release of pressure N
SARA TITLE 3 : SECTION 311/312 Hazard Identification	Harmful, Toxic
SARA TITLE 3 : SECTION 302/304 Emergency planning and notification	-----
SARA TITLE 3 : SECTION 313 Toxic chemical notification and Release	This product does contain chemicals which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of title III of the superfund amendments and Reauthorization act of 1986 and 40 CFR

reporting	part 372
CERCLA (40 CFR 302.4)	
Waste classification	No data
Clean Air Act	No data

SECTION 16: OTHER INFORMATION

NFPA RATINGS	Health : 1	Flammability : --	Reactivity :---
HMIS RATINGS	Health : ----	Flammability :----	Reactivity :---
	0 = Least 1= slight 2= Moderate 3= High 4=Extreme		

ABBREVIATIONS

STEL	Short term exposure limit
ACGIH	American conference of Government Industrial Hygienists
NIOSH	National institute of safety and health
SARA	Super fund Amendments and Reauthorization Act
TWA	Time weighted average
OSHA	Occupational safety and health
NFPA	National Fire protection agency
HMIS	Hazardous Materials information system
RCRA	Resource conservation Recovery act
TSCA	Toxic substance Control Act
WHMIS	Work place Hazardous Materials information system
IRAC	International Agency for Research on Cancer

MANUFACTURE'S / SUPPLIER'S DATA

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Local Bodies Involved	Collector of Thane			

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