



**INDOFIL INDUSTRIES LIMITED**  
KOLSHET, OFF SWAMI VIVEKANAND ROAD,  
AZAD NAGAR, SANDOZ BAUG P.O.,  
THANE – 400 607. MAHARASHTRA (INDIA)  
TEL. NO. : 00-91-22-6799 9100  
FAX NO. : 00-91-22-2589 83 57 / 59

## MATERIAL SAFETY DATA SHEET

2-R&amp;D-MSDS- AGRO-FP- 423

**SECTION 1. PRODUCT IDENTIFICATION**

<b>Chemical Name</b>	CARBENDAZIM 50 % WP	<b>Company Identification</b> INDOFIL INDUSTRIES LIMITED KOLSHET, OFF SWAMI VIVEKANAND ROAD, AZAD NAGAR, SANDOZ BAUG P.O., THANE – 400 607. MAHARASHTRA (INDIA) TEL. NO. : 00-91-22-6799 9100 FAX NO. : 00-91-22-2589 83 57 / 59
<b>Trade Name</b>	Benfil 50 WP	
<b>Synonyms</b>	Carbendazol	<b>Chemical classification:</b> Benzimidazole derivative
<b>IUPAC</b>	Methyl benzimidazol-2-ylcarbamate	
<b>CAS Number</b>	10605-21-7	
<b>Formula</b>	C <sub>9</sub> H <sub>9</sub> N <sub>3</sub> O <sub>2</sub>	

**SECTION 2. COMPOSITION / INFORMATION OF INGREDIENTS**

COMPONENT NAME	CAS REGISTRY NO	CONCENTRATION
Carbendazim	10605-21-7	50%
Other Ingredients	-----	50%

**SECTION 3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

Physical state : Solid  
Color : Light Buff to Off white Powder  
Odor : Characteristics

Harmful or fatal if swallowed - can enter lungs and cause damage  
Contact can cause eye or skin irritation

**IMMEDIATE HEALTH EFFECTS**

<b>Eye contact</b>	Moderately irritation to eyes.
<b>Skin contact</b>	Repeated or prolonged contact can cause irritation or dermatitis.
<b>Ingestion</b>	Harmful or fatal if swallowed –Can enters lungs and cause damage
<b>Inhalation</b>	Dust can irritate the nose and throat

**SECTION 4 : FIRST AID MEASURES**

<b>Eye</b>	Flush eyes with plenty of water for at least 15 minutes and see doctor
<b>Skin</b>	Remove contaminated clothes, wash skin with soap and water.
<b>Ingestion</b>	If swallowed dilute by giving 2 glasses of water to drink and call a doctor. Never give any by mouth to an unconscious person.
<b>Inhalation</b>	Move subject to fresh air and rest

**SECTION 5 : FIRE FIGHTING MEASURES**

<b>Flash Point</b>	Not applicable
<b>Flammable Limits</b>	LFL – Not Determined UFL – Not Determined
<b>Thermal Decomposition</b>	310°C
<b>Hazardous Combustion products</b>	Product is not flammable, but will burn if heated by combustion of other compounds. Combustion may release carbon dioxide, nitrogen oxides, and /or chlorine compounds.
<b>Extinguishing Media</b>	Dry chemical powder, CO2, Foam, Water fog
<b>Media to avoided</b>	Water Stream
<b>Fire fighting instructions</b>	If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tank with spray water.
<b>Protetctive Equipment for Fire Fighter</b>	Wear Self Contained breathing apparatus and protective suit.

**SECTION 6 : ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Wear personal protective equipment.
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system. Do not contaminate surface water. Do not allow material to contaminate ground water system.
<b>Methods for cleaning up</b>	Clean up promptly by scoop or vacuum. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal.

**SECTION 7 : HANDLING AND STORAGE**

<b>Handling - Advice on safe handling</b>	Provide appropriate exhaust ventilation at places where dust is formed. Wear personal protective equipment.
<b>Advice on protection against fire and explosion</b>	Keep away from heat and sources of ignition.
<b>Storage – Requirements for storage areas and containers</b>	Store in a place accessible by authorized persons only. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children.
<b>Advice on common storage</b>	No materials to be specially mentioned.

**SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>Engineering controls</b>	Provide exhaust ventilation or other engineering controls. An emergency eye wash station and safety shower should be located near the work-station .
<b>Personal Protective Equipment</b>	<p><b>Eye Protection:</b> Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact. Contact lenses should not be worn when working with this chemical</p> <p><b>Hand protection:</b> Avoid skin contact .Use gloves. Wash hands with plenty of mild soap and water before eating, drinking, use of toilet facilities or leaving work.</p> <p><b>Body protection:</b> Avoid skin contact. Wear long-sleeved fire-retardant garments. Additional chemical-resistant protective gear may be required. This may include an apron, boots and additional facial protection.</p> <p><b>Respiratory Protection:</b> Wear suitable respirators where exposure limits are exceed. An air-supplied respiratory protection must confirm to OSHO rules as specified in 29 CFR1910.134.</p> <p><b>Skin Protection :</b> Wear insulated neoprene gloves for handling the material select in accordance with OSHO 29 CFR 1910.133.</p> <p><b>Work practices:</b> users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside . Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing. Deluge safety shower and eye wash station should be located in work area</p>

<b>SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES</b>			
<b>Physical state</b>	Solid	<b>Appearance</b>	Light Buff to Off White Powder
<b>Odor</b>	No applicable odor	<b>PH of Slurry</b>	6.8
<b>Specific gravity (Water = 1)</b>	0.4 to 0.5 G/CC	<b>Solubility in water @</b>	Dispersible
<b>Vapor pressure @ 20°C (mm Hg)</b>	NA	<b>Vapor density</b>	NA
<b>Viscosity</b>	--	<b>Boiling point (°C)</b>	NA
<b>Melting point (°C)</b>	NA		

<b>SECTION 10: STABILITY AND REACTIVITY</b>	
<b>Chemical stability</b>	Stable
<b>Conditions to Avoid</b>	Keep dry and avoid excessive heat and ignition sources.
<b>Hazardous Decomposition Products</b>	Product is not flammable, but will burn if heated by combustion of other compounds. Combustion may release carbon dioxide, nitrogen oxides, and /or chlorine compounds.
<b>Hazardous Polymerization</b>	Not Applicable

<b>SECTION 11: TOXICOLOGICAL INFORMATION</b>	
<b>Acute Oral toxicity</b>	LD 50 (oral – rat): >5000 mg/Kg ,dogs >2000 mg/kg
<b>Acute Dermal toxicity</b>	LD 50 (oral – rabbits): >5000 mg/Kg ,Rat >2000 mg/kg
<b>Acute Inhalation toxicity</b>	LC50 for rats, rabbits ,guinea pigs or rats or cats ,no effects with suspension ( 10 g/l water)
<b>Eye irritation:</b> This material is irritating to the eyes	
<b>Skin irritation:</b> This material is irritating to the skin	
Allergenic and sensitizing effects: Not considered to be a skin sensitizer (Guinea pig)	
Chronic toxicity /Carcinogenicity: NOEL (2y) for dogs 300 mg/Kg diet ,corresponding to 6-7 mg/Kg b.w.	

**SECTION 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	
<b>Birds</b>	Acute Oral LD50 :or quail 5826 -15 595 mg/kg
<b>Fish</b>	LC50 (96h) :For carp 0.61,rainbow trout 0.83,bluegill sunfish >17.25,guppy >8mg/l
<b>Daphnia</b>	EC50 (48h) :0.13 -0.22mg/l
<b>Algae</b>	EC50 :OR Scenedesmus subspicatus 419 ,Selenastrum capricornutum 1.3 mg/l
<b>Bees</b>	LD50 (Contact) :>50 µg /bee
<b>Earthworm</b>	LC50 (14 Days) :For Eisenia foetida 6 mg/Kg Soil
<b>Persistent and Degradability: Half life in water DT50 2 -25 MONTH. Half life in Soil DT50 8-32 Days</b>	
<b>Bioaccumulative Potential:Low Potential</b>	
<b>Mobility in Soil :Medium</b>	

**SECTION 13: DISPOSAL CONSIDERATIONS**

Waste Disposal Method: Incinerate in approved equipment in accordance with local regulations.

**SECTION 14 : TRANSPORT INFORMATION**

<b>IATA Shipping Name</b>	Environmentally hazardous substance, solid, n.o.s. (contains Carbendazim)
<b>IATA Hazard class</b>	9
<b>IATA identification number</b>	3077
<b>IATA packing Group</b>	III

**SECTION 15: REGULATORY INFORMATION****Labelling according to EEC Directive**

Symbol(s) : T Toxic

N Dangerous for the environment

Hazardous components: Carbendazim

R-phrase(s) : R46 May cause heritable genetic damage.

R60 May impair fertility.

R61 May cause harm to the unborn child.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s) : S 2 Keep out of reach of children.

S13 Keep away from food, drink and animal feedingstuffs.

S20/21 When using, do not eat, drink or smoke.

S53 Avoid exposure - obtain special instructions before use.  
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).  
 S35 This material and its container must be disposed of in a safe way.  
 S57 Use appropriate containment to avoid environmental contamination.  
 Exceptional labelling of special preparations  
 : To avoid risks to man and the environment, comply with the instructions for use.  
 Further information : Restricted to professional users.

## SECTION 16: OTHER INFORMATION

<b>NFPA RATINGS</b>	Health : 1	Flammability :1	Reactivity :1
<b>HMIS RATINGS</b>	Health : 1	Flammability :1	Reactivity :1
	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

Name of Firm : INDOFIL INDUSTRIES LIMITED				
Mailing Address : Kolshet, Off Swami Vivekanand Road, Azad nagar, Sandoz Baug P.O. Thane – 400 607.		Gat No. 194, Village – Gahunje, Tal. Maval, Dist. Pune.		S-26 (T), MIDC, Bhosari, Pune – 411 026.
Telephone 6799 9100	Telex		Telephone 22767 5084	Telephone 22712 2302
Fax 2589 8357	Telegraphic Code		Fax 22767 5083	Fax 22712 9242
Local Bodies Involved	Collector of Thane			

**DISCLAIMER**

The Information contained in this material data sheet is believed to be reliable but no representation, guarantee or warranties, of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is however ensured that the information contained in the material safety data sheet is relevant to the product manufactured / handled or sold as the case may be by us. Indofil Industries Limited makes no warranty expressed or implied in respect of the adequacy of this document for any particular purpose.

Last updated :12/05/2009.