



# Material safety data sheet

## CAPTAN 70 + HEXACONAZOLE 5% WP

Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME :** CAPTAN 70%+HEXACONAZOLE 5%WP  
**APPLICATION :** Fungicide

#### COMPANY

Shreeji Pesticides Pvt Ltd, Block-69/P, 73  
Village- Manjusar, Taluka- Savli,  
Dist- Vadodara-391775, Gujarat, India

#### EMERGENCY TELEPHONE NUMBERS

(02667)264701/02

(+91)9428144701

### SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Active Ingredient(s)/ Hazardous Inert Ingredient(s)	CAS #	Exposure Limits*	% Weight	% Volume
Captan: N- [(trichloromethyl)thio]-4- cyclohexene-1, 2-dicarboximide	133-06-2	TWA <sup>a</sup> OSHA PEL <sup>b</sup> : None ACGIH TLV <sup>c</sup> : 5mg/m <sup>3</sup> NIOSH REL <sup>d</sup> : 5mg/m <sup>3</sup>	70	NA
Hexaconazole: (RS)-2-(2,4- dichlorophenyl)-1-(1H-1,2,4- triazol-1-yl)hexan-2-ol	79983-71-4	-----	5.0	NA

Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

\*Source: *Guide to Occupational Exposure Values 2000*, published by ACGIH

<sup>a</sup>**TWA**: Time-weighted average exposure concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.

<sup>b</sup>**OSHA PEL**: Occupational Safety and Health Administration Permissible Exposure Limits.

<sup>c</sup>**ACGIH TLV**: American Conference of Governmental Industrial Hygienists, Inc., Threshold Limit Values.

<sup>d</sup>**NIOSH REL**: National Institute for Occupational Safety and Health Recommended Exposure Limits.



## Material safety data sheet

### CAPTAN 70 + HEXACONAZOLE 5% WP

#### SECTION 3: HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

**WARNING:**

- MAY CAUSE IRREVERSIBLE EYE DAMAGE
- MAY CAUSE SENSITIZATION BY SKIN CONTACT
- PREVENT SKIN AND EYE CONTACT
- KEEP OUT OF REACH OF CHILDREN
- VERY TOXIC TO FISH

##### **Acute Health Hazards**

**Eye:** Severe eye irritation can be expected. The degree of injury will depend on the amount and duration of the contact and the speed and thoroughness of the first aid treatment.

**Skin:** Short contact periods may irritate skin slightly; prolonged contact could increase the severity of irritation. Repeated exposure may cause dermal sensitization. Captan is poorly absorbed through the skin and is minimally toxic via dermal exposure.

**Ingestion:** This product is expected to be minimally toxic if ingested. The degree of injury will depend on the amount of material absorbed and the speed and thoroughness of first aid treatment.

**Inhalation:** inhalation exposure is not expected from granular formulation.

**Chronic Health Hazards (Including Cancer):** Captan Technical was not oncogenic in the rat in a lifetime dietary study. In a lifetime mouse dietary study Captan Technical did produce a significant increase in tumors of the small intestine (especially the duodenum) after repeated exposure at high doses. The threshold oncogenic response results from a chemical irritation to the intestinal mucosa and not a genotoxic effect.

**Teratology (Birth Defects) Information:** Captan Technical was fetotoxic (not teratogenic) in animal studies at maternally toxic doses.

#### SECTION 4: FIRST AID MEASURES

**Eyes:** Flush eyes immediately with fresh water or eyewash solution for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention immediately.

**Skin:** Remove contaminated clothing, wash skin with plenty of soap and water. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.

**Ingestion:** If swallowed drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with finger. If possible contact a physician, poison control center, or emergency center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center.

**Inhalation:** Remove patient from exposure, keep warm and at rest. Obtain medical attention as a precaution.

**Notes to Physicians or First Aid Providers:** Symptomatic treatment and supportive therapy as indicated.



**Material safety data sheet**  
**CAPTAN 70 + HEXACONAZOLE 5% WP**

**SECTION 5: FIRE FIGHTING MEASURES**

<b>Flammable Limits in Air (% by volume):</b>		
	<b>Upper:</b>	NA
	<b>Lower:</b>	NA
<b>Flash Point:</b>		
	<b>Method Used:</b>	NA
<b>Autoignition Temperature:</b>		
<b>LEL/UEL:</b>		
<b>NFPA Hazard Classification:</b>		
	<b>Health:</b>	2
	<b>Flammability:</b>	2
	<b>Reactivity:</b>	2
	<b>Other:</b>	None
<b>Extinguishing Media:</b>		
Foam, CO <sub>2</sub> , dry powder extinguishant, water-fog		
<b>Special Fire Fighting Procedures:</b>		
For small fires, use foam, carbon dioxide, or dry powder extinguishant. For large fires, use foam or water-fog. Avoid use of water jet. Contain run-off water with temporary earthen barriers. An SCBA and suitable protective clothing should be worn in fire conditions.		
<b>Hazardous Combustion Products:</b>		
Combustion or thermal decomposition will evolve toxic and irritant vapors.		

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

Ensure suitable personal protection during removal of spillage by wearing a facemask that gives protection against toxic dusts, eye protections, chemically resistant gloves, boots and coveralls. Avoid runoff into storm sewers or other bodies of water. Clean up spill immediately. Cover spillage with moist sand, soil or sawdust. Transfer to a container for disposal. Wash the spillage area with water. Washings must be prevented from entering surface water drains. This material is very toxic to fish. Spillage or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body. Remove contaminated water for removal or treatment.

**SECTION 7: HANDLING AND STORAGE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with label precautionary statements and directions. Avoid contact with skin and eyes. Do not breathe dust. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking. Keep in original containers, tightly closed, out of reach of children. Keep away from food, drink, and animal feeding stuffs. Keep away from frost. This product is physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

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

**Eye Protection:** Do not get this material in your eyes. The use of chemical safety eyewear is recommended when handling this material.

**Respiratory/Ventilation Requirements:** Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. If needed, use MSHA/NIOSH approved respirator for



## Material safety data sheet CAPTAN 70 + HEXACONAZOLE 5% WP

pesticides. When used outdoors, engineering controls are not necessary. If use conditions are different (e.g. greenhouse, product reformulation or repackaging) employee exposure should be minimized using traditional techniques such as enclosed system design and/or local exhaust ventilation.

**Skin Protection:** Avoid skin contact by wearing suitable protective clothing, gloves and eye/face protection. Remove contaminated clothing and wash before re-wearing.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Off-white powder
<b>Odor:</b>	NDA
<b>Physical State:</b>	Solid Powder
<b>Acidity</b>	0.1% Max
<b>Boiling Point:</b>	NA
<b>Melting Point:</b>	NDA
<b>Freezing Point:</b>	NA
<b>Vapor Pressure:</b>	NDA
<b>Vapor Density:</b>	NA
<b>Specific Gravity:</b>	NA
<b>Evaporation Rate:</b>	NA
<b>Solubility in Water:</b>	Dispersible
<b>Percent Solids by Weight:</b>	NDA
<b>Percent Volatile:</b>	NA
<b>Volatile Organic Compounds:</b>	NA
<b>Molecular Weight:</b>	NDA
<b>Viscosity:</b>	NA

### SECTION 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	NDA
<b>Hazardous Polymerization:</b>	NDA
<b>Flash Point:</b>	NDA
<b>Flammable Point:</b>	NDA
<b>Auto Ignition:</b>	NDA
<b>Incompatibility With Other Materials:</b>	NDA
<b>Hazardous Decomposition Products:</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours

### SECTION 11: TOXICOLOGICAL INFORMATION

**Acute:**

**Eye Irritation:** Severe/very severe irritant to rabbit eyes.

**Skin Irritation:** Mild skin irritant.

**Skin Sensitization:** Captan is a moderate skin sensitizer.

**Dermal Toxicity:** This product has a low dermal toxicity. The dermal LD<sub>50</sub> of Captan is > 2,000 mg/kg. dermal LD<sub>50</sub> of Hexaconazole is > 2,000 mg/kg(rats)

**Oral Toxicity:** This product has a low oral toxicity. The oral LD<sub>50</sub> of Captan in rats is > 5,000 mg/kg. oral LD<sub>50</sub> of Hexaconazole is > 2,000 mg/kg(rats)



## Material safety data sheet CAPTAN 70 + HEXACONAZOLE 5% WP

**Inhalation Toxicity:** This product has a low inhalation toxicity. The 4-hour LC<sub>50</sub> of Captan Technical in male and female rats is > 2.70 mg/L.

**Subchronic Toxicity (based upon technical material):** The dermal 21-day LD<sub>50</sub> (rabbits) = 110 mg/kg/day. The inhalation 90-day LC<sub>50</sub> (rat) is > 13 mg/L.

**Chronic/Carcinogenicity:** Captan and hexaconazole are not carcinogenic to rats or dogs following chronic dietary exposure. In mice, chronic dietary exposure to Captan Technical produced increased tumors of the small intestine, but only at high doses. The tumors are a result of chemical irritation of the intestine, and not a mutagenic effect. The NOEL for tumor formation was 400 ppm Captan technical in diet.

**Teratology/Developmental Toxicity:** Captan is not teratogenic when tested in rabbits or hamsters. Embryotoxicity and fetotoxicity were observed in animal studies only at maternally toxic doses.

**Reproduction:** In a 3-generation rat study, Captan Technical had no effects on fertility, gestation length or litter size. Pup survival was reduced at doses  $\geq$  250 mg/kg/day. A 1-generation study showed decreased pup (rat) weights at 12.5 mg/kg/day.

**Mutagenicity:** *In vivo*, Captan has been examined in many systems and the overall conclusion is of no significant genotoxic activity. Genotoxicity has been shown *in vitro* primarily for prokaryotic and non-mammalian eukaryotic cells when cellular protective mechanisms (GSH, etc.) are absent.

**Neurotoxicity:** Captan and Hexaconazole are not a neurotoxin.

### SECTION 12: ECOLOGICAL INFORMATION

#### Environmental Fate and Distribution:

Solid with moderate volatility  
The substance is sparingly soluble in water  
The substance has low potential for bioaccumulation  
DT<sub>50</sub> of < 1 day in aerobic and anaerobic soil  
Rapidly hydrolyzed in natural waters (DT<sub>50</sub> < 24 hrs)  
Does not volatilize from soil  
Does not readily leach into groundwater

#### Avian Toxicity (based upon technical material):

Bobwhite quail oral LD<sub>50</sub> > 2,000 mg/kg  
Bobwhite quail dietary LC<sub>50</sub> (5-day feeding) > 5,200 ppm  
Mallard duck oral LD<sub>50</sub> > 2,000 mg/kg  
Mallard duck dietary LC<sub>50</sub> (5-day feeding) > 5,200 ppm

#### Aquatic Organism Toxicity (based upon technical material):

Toxic to fish. Due to short persistence in water this product is unlikely to be hazardous to aquatic life.

Rainbow Trout 96-hour LC<sub>50</sub> = 50  $\mu$ g/L  
Mirror Carp 96-hour LC<sub>50</sub> = 240  $\mu$ g/L  
*Daphnia magna* 48-hour EC<sub>50</sub> = 4.7 mg/L

#### Other Non-Target Organism Toxicity (based upon technical material):

Toxic to algae

Green algae (biomass) 96-hour EC<sub>50</sub> = 1.6 mg/L  
Green algae (growth rate) 96-hour EC<sub>50</sub> = 11 mg/L

Toxic to bacteria *Pseudomonas putida* EC<sub>50</sub> = 0.22 mg/L



## Material safety data sheet CAPTAN 70 + HEXACONAZOLE 5% WP

Low toxicity to honeybees

24-hour contact LD<sub>50</sub> ε 200 μg a.i./bee

24-hour oral LD<sub>50</sub> ε 100 μg a.i./bee

### SECTION 13: DISPOSAL CONSIDERATIONS

End users must dispose of any unused product as per the label recommendations and in accordance with all applicable laws and regulations. Check governmental regulations and local authorities for approved disposal of this material.

### SECTION 14: TRANSPORT INFORMATION

<b>D.O.T. Shipping Name:</b>	Environmentally Hazardous Substance, solid, N.O.S, (contains Captan 70% and Hexaconazole 5%). RQ
<b>Technical Shipping Name:</b>	Captan 70%+Hexaconazole 5% WP
<b>Packing Group:</b>	III
<b>D.O.T. Hazard Class:</b>	9
<b>Product RQ (lbs):</b>	12.5 lbs (based on % weight of RQ ingredient(s))
<b>D.O.T. Label:</b>	9
<b>D.O.T. Placard:</b>	9
<b>Marine Pollutant:</b>	Yes
<b>IMO:</b>	
<b>IMO Label:</b>	9
<b>IMO Placard:</b>	9
<b>European Road/Rail:</b>	
<b>Class:</b>	9

### SECTION 15: REGULATORY INFORMATION

#### U.S Federal Regulations

**FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act):** All pesticides are governed under FIFRA. Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

**CERCLA (Comprehensive Response Compensation, and Liability Act):** Captan Reportable Quantity = 10 lbs.

**EPCRA (Emergency Planning and Community Right-to-Know Act) Section 313:** Yes

**OSHA (Occupational Safety and Health Administration):** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

**RCRA (Resource Conservation and Recovery Act):** NA

**SARA Title III (SUPERFUND Amendments and Reauthorization Act):**  
Section 302 (EHS) TPQ: NONE



## Material safety data sheet **CAPTAN 70 + HEXACONAZOLE 5% WP**

Section 304 (EHS) RQ:

NONE

Section 311/312 CATEGORIES

1. Immediate (Acute) Health Effects; **YES**
2. Delayed (Chronic) Health Effect; **YES**
3. Fire Hazard; **NO**
4. Sudden Release of Pressure Hazard; **NO**
5. Reactivity Hazard; **NDA**

**TSCA (Toxic Substance Control Act):** This product is exempt from TSCA Regulation under FIFRA Section 3 (2)(B)(ii) when used as a pesticide.

### International Regulations:

**EEC Classification:** IRRITANT

**Hazard Symbols:** Xn

**Risk Phrases:**  
R36: Irritating to eyes  
R40: Possible risks of irreversible effects  
R43: May cause sensitization by skin contact

**Safety Phrases:**  
S2: Keep out of reach of children  
S13: Keep away from food, drink and animal feeding stuffs  
S20/21: When using do not eat, drink or smoke  
S24: Avoid contact with skin  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S37/39: Wear suitable gloves and eye/face protection

## SECTION 16: OTHER INFORMATION

**Issue date:** 05/05/2014

The information in this MSDS is based on data available to us as of the issue date given herein, and believed to be correct.

Judgments as to the suitability of information herein for the individual's own uses or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Shreeji pesticides Pvt Ltd extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.