

# SAFETY DATA SHEETS

## DIFENOCONAZOLE 97% TECHNICAL

No.: 121001  
Version: 4  
Date: April, 2022

### SECTION 1: IDENTIFICATION

Product identifier	Difenoconazole 97% technical
Other means of identification	N/A
Recommended use	Fungicide
Supplier's details	Jiangsu Heben Biochemical Co., Ltd No 20, Second Haibin Road, Yangkou Chemical Area, Rudong, Jiangsu, P.R.China
Telephone No	+86-577-88797730; +86-577-88797721
Fax No.	+86-577-88797739
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Emergency phone number	+86-513-68508048

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 GHS classification of the substance or mixture (Ninth Revised Edition, 2021)

Physical hazards	None	None
Health hazards	Acute toxicity, oral, Category 4	H302
	Acute toxicity, dermal, Category 5	H313
	Acute toxicity, inhalation, Category 4	H332
Environmental hazards	Hazardous to the aquatic environment, acute hazard, Category 1	H400
	Hazardous to the aquatic environment, long-term hazard, Category 1	H410

#### 2.2 GHS label elements, including precautionary statements

Hazard pictograms



Signal word

Warning

Hazard statement (s)

H302

Harmful if swallowed

H313	May be harmful in contact with skin
H332	Harmful if inhaled
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### Prevention statements

P261	Avoid breathing dust.
P264	Wash hands and face thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment

#### Response statements

P301+P317	IF SWALLOWED: Get medical help
P302+P317	If on skin: Get medical help.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P330	Rinse mouth
P391	Collect spillage.

#### Storage statements

P403 + P233	Store in the well-ventilated place, keep container tightly closed.
P405	Store locked up.

#### Disposal statements

P501	Dispose of contents/container in accordance with local regulations.
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#### 2.3 Other hazards which do not result in classification

No other hazards known.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Common name, synonyms	Chemical identity	CAS number and other unique identifiers	The concentrations of the ingredients
Difenoconazole	cis,trans-3-chloro-4-[4-methyl-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-2-yl]phenyl 4-chlorophenyl ether (IUPAC name)	CAS No.: 119446-68-3	97% Min
Other non-hazardous ingredients			< 3%

## **SECTION 4: FIRST-AID MEASURES**

### **4.1 Description of necessary first-aid measures**

**Skin:** Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.

**Eyes:** For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport.

**Inhalation:** Move affected person to fresh air and keep at rest until recovered. If not breathing, give artificial respiration and get to a doctor.

**Ingestion:** Do not induce vomiting if the person is conscious. Give glass of water. Get to a doctor.

### **4.2 Most important symptoms/effects, acute and delayed**

No such information is reported.

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

No antidote, no special treatment, please treat it symptomatically.

## **SECTION 5: FIRE-FIGHTING MEASURES**

### **5.1 Suitable extinguishing media**

Use dry chemical, carbon dioxide, water spray, and foam.

### **5.2 Specific hazards arising from the chemical**

May produce toxic fumes of nitrogen oxides, carbon dioxide and carbon monoxide if burn.

### **5.3 Special protective equipment for firefighters**

Should wear full-protective clothing, and self-contained breathing apparatus. Fight fire from safe distance and protected location. Avoid (reject) fire-fighting water to enter environment.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear full protective clothing and self-contained breathing apparatus. Control the spill at its source. Dike area and absorb small spills with materials such as sand, sawdust, Zorb all, or dirt and place in suitable containers for recovery or disposal. Remove all contaminated clothing promptly and wash exposed body areas thoroughly with soap and water immediately after handling. Thoroughly launder clothing before reuse. Do not take clothing home to be laundered.

### **6.2 Environmental precautions**

Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems of any body of water. Keep spills and cleaning run-off out of municipal sewers and open bodies of water.

### **6.3 Methods and materials for containment and cleaning up**

If there is contamination of crops or waterways, advise emergency services or state department of agriculture.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid direct or prolonged contact with skin and eyes. Do not breathe dust. Do not ingest. It is recommended that you wear full protective clothing including face mask, face shield and gauntlets, all skin areas should be covered, when handling this product.

Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. And take a bath or wash hands completely with soap after use. Remove contaminated clothing and protective equipment before entering eating areas.

Prevents handling of incompatible substances or mixtures when use this product. Minimize the release of this product to the environment when handling this product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store the material in a well-ventilated, dry, cool, out of light and secure area, out of reach of children and domestic animals, and in sealed original containers. Do not store food, beverages or tobacco products in the storage area. Store this product away from the incompatible materials, explosive atmospheres, corrosive conditions, fire and heat, etc.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Contain no substances with occupational exposure limit values.

### 8.2 Appropriate engineering controls

Use only in an enclosed system. Use local exhaust ventilation. Safety shower. Use explosive dust handling controls.

### 8.3 Individual protection measures

**Industrial hygiene:** Remove and wash contaminated clothing promptly. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

#### Personal protective equipment

##### Respiratory protection:

Wear respirator with a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 or equivalent.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

**Protective gloves:** rubber gloves;

**Eye protection:** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state

Solid

Color	White
Odor	Odorless
Melting point / freezing point	82.0-83.0°C (99.3%)
Boiling point or initial boiling point and boiling range	No information
Flammability	Not flammable
Lower and upper explosion limit/ flammability limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not expected to self-ignite
Decomposition temperature	Decomposition starts at about 337°C (99.3%)
pH value	Not determined
Kinematic viscosity	Not applicable
Solubility	In water 15 mg/l (25 °C). In ethanol 330, acetone 610, toluene 490, n-hexane 3.4, n-octanol 95 (all in g/l, 25 °C).
Partition coefficient n-octanol/water (log value)	$K_{ow}$ logP = 4.36 (pH7, 20C)
Vapour pressure	0.0034 mPa (20 °C)
Density and/or relative density	1.40 (25°C)
Relative vapor density	Not applicable
Particle characteristics	Not known

## 9.2 Other information

Further safety related physical-chemical data are not known.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

No reactivity under normal conditions.

### 10.2 Chemical stability

This product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

This product does not react or polymerize, releasing excess pressure or heat, or creating other hazardous conditions.

### 10.4 Conditions to avoid

Avoid fire, feed, food and beds of water.

### 10.5 Incompatible materials

Not compatible with Strong oxidizing agents, alkalis and acids.

### 10.6 Hazardous decomposition products

When involves in a fire, maybe release oxides of carbon and nitrogen and chlorides and other toxic

nitrogen compounds on combustion.

## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Acute toxicity</b>	Acute oral LD <sub>50</sub> for 1453 mg/kg (EFSA Journal 2011;9(1):1967) Acute dermal LD <sub>50</sub> for rats >2000 mg/kg (EFSA Journal 2011;9(1):1967) Acute inhalation LC <sub>50</sub> (4h) for rats >3.3mg/L (EFSA Journal 2011;9(1):1967)
<b>Skin corrosion/irritation</b>	Not irritant to skin (Rabbit) (EFSA Journal 2011;9(1):1967)
<b>Serious eye damage/irritation</b>	No irritant to eyes. (Rabbit) (EFSA Journal 2011;9(1):1967)
<b>Respiratory or skin sensitization</b>	Not a skin sensitizer (Maximisation test) (EFSA Journal 2011;9(1):1967)
<b>Germ cell mutagenicity</b>	No genotoxic potential (EFSA Journal 2011;9(1):1967)
<b>Carcinogenicity</b>	No carcinogenic potential (EFSA Journal 2011;9(1):1967)
<b>Reproductive toxicity</b>	The maternal NOAEL in this study was 16.8 mg/kg bw/day. (EFSA Journal 2011;9(1):1967)
<b>STOT-single exposure</b>	No available data.
<b>STOT-repeated exposure</b>	No available data.
<b>Aspiration hazard</b>	No available data.
<b>Further information</b>	No available data.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Eco-toxicity

<b>Birds</b>	LD <sub>50</sub> (9-11 d) for Japanese quail >2000 mg/kg. LC <sub>50</sub> for mallard ducks >5000 mg/kg feed.
<b>Fish</b>	LC <sub>50</sub> (96 h) for rainbow trout 1.1mg/L, Chronic 21 day NOEC rainbow trout 0.023mg/L.
<b>Daphnia</b>	EC <sub>50</sub> (48 h) 0.77 mg/l. Chronic 21 day NOEC rainbow trout 0.0056mg/L.

**Algae** EC<sub>50</sub> (72 h, growth) for *Scenedesmus subspicatus* 0.032 mg/l. Chronic 96 hour NOEC, growth 0.87mg/L.

**Bees** Non-toxic to honeybees; LD<sub>50</sub> (oral) >177 µg/bee; LD<sub>50</sub> (contact) >100 µg/bee.

**Worms** LC<sub>50</sub> (14 day) > 610mg/kg, chronic NOEC, reproduction 0.2mg/kg.  
(EFSA Journal 2011;9(1):1967)

### 12.2 Persistence and degradability

Soil dissipation rate is slow and dependent on application rate; DT<sub>50</sub> 50-150 d. DT<sub>50</sub> from water 2 d.  
(BCPC, *e-The Pesticide Manual, Thirteenth Edition*)

### 12.3 Bio-accumulative potential

BCF = 330L/kg

### 12.4 Mobility in soil

Practically immobile in soil, strong adsorption to soil particles (mean adsorption coefficient normalised to organic carbon, K<sub>oc,ads</sub> 3759 ml/g), low potential to leach below top soil layer.  
(BCPC, *e-The Pesticide Manual, Thirteenth Edition*)

### 12.5 Other adverse effects

None

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Product

The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

### 13.2 Contaminated packaging

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

## SECTION 14: TRANSPORT INFORMATION

### IMDG:

UN number: 3077

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S  
(Difenoconazole)

Transport hazard class: 9

Packing group: III

Environmental hazards: Marine pollutant

Special precautions for user: None.

Transport in bulk according to IMO instruments: Not applicable

## **SECTION 15: REGULATORY INFORMATION**

### **15.1 Safety, health and environmental regulations/legislation specific for the product in question**

WHO-classification: II (Slightly hazardous)

This product is not subject to any prohibitions or restrictions in China.

## **SECTION 16: OTHER INFORMATION**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.