

SAFETY DATA SHEETS

Penconazole 97%TC

No.: 121006

Version: 4

Date: April, 2022

SECTION 1: IDENTIFICATION

Product identifier	Penconazole 97%TC
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 Phase II, Rudong, Jiangsu, P.R.China
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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 5	H303
	Acute toxicity, Dermal, Category 5	H313
	Acute toxicity, Inhalation, Category 4	H332
	Serious eye damage/eye irritation, Category 2A	H319
Environmental hazards	Acute aquatic toxicity, Category 2	H401
	Chronic aquatic toxicity, Category 1	H410

2.2 GHS label elements, including precautionary statements

Hazard pictograms	
Signal word	Warning
Hazard statement (s)	
H303	May be harmful if swallowed
H313	May be harmful in contact with skin

H332	Harmful if inhaled
H319	Causes serious eye irritation.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Prevention statements

P261	Avoid breathing mist.
P264	Wash hands and face thoroughly after handling.
P265	Do not touch eyes.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.

Response statements

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P337+P317	If eye irritation persists: Get medical help.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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
Penconazole	(RS)-1-[2-(2,4-dichlorophenyl)pentyl]-1H-1,2,4-triazole (IUPAC name)	CAS No.: 66246-88-6 EC No.: 266-275-6	97%
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 give off toxic fumes of oxides of carbon and nitrogen, and chlorides 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

In the event of major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including face mask, face shield and gauntlets. All skin areas should be covered. Though launder protective clothing before storage or re-use. Stop leak is safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labeled containers for recycling or salvage.

6.2 Environmental precautions

After spills, wash area, preventing runoff from entering drains.

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 mists. Do not ingest. It is

recommended that 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.

7.2 Conditions for safe storage, including any incompatibilities

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area.

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: Nitrile 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	Powder (purity 99.5 %)
Color	White (purity 99.5 %)
Odor	Odorless
Melting point / freezing point	Melting point: 60.3-61.0°C(purity 99.5 %)
Boiling point or initial boiling point and boiling range	Boiling point: > 360 °C at 101.3 kPa (calculated)
Flammability	Not highly flammable (purity 96.1 %)
Lower and upper explosion limit/ flammability limit	Not explosive (purity 96.1 %)

Flash point	Not applicable to solids
Auto-ignition temperature	No self ignition observed up to melting temperature (purity 96.1 %)
Decomposition temperature	Stable to temperatures up to 350 °C
pH value	5.0-9.0
Kinematic viscosity	Not applicable to solids
Solubility	In the water: 73 mg/L (at 20 °C, pH 6.7, purity 99.5 %). In ethanol 730, acetone 770, toluene 610, <i>n</i> -hexane 24, <i>n</i> -octanol 400 (all in g/l, 25 °C).
Partition coefficient n-octanol/water (log value)	K_{ow} logP = 3.72 (pH 5.7, 25 °C).
Vapour pressure	3.66×10^{-4} Pa (25 °C), extrapolated from measurements at 36.6 and 58.3 °C (purity 99.5 %)
Density and/or relative density	Relative density: 1.28 g/cm^3 (purity 99.5 %)
Relative vapor density	Not applicable to solids
Particle characteristics	No data available
Above data is from ECHA/RAC/CLH-O-0000002679-61-01/A1, adopted 11 July 2012	

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

No dangerous reactions known.

10.4 Conditions to avoid

Avoid fire, feed, food and beds of water.

10.5 Incompatible materials

Not compatible with strong oxidizing agents.

10.6 Hazardous decomposition products

Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Acute oral LD₅₀ for rats 2500 mg/kg (cut-off value) (Data From experimental report)

Acute dermal LD₅₀ for rats >2000 mg/kg (Data From

experimental report)

Acute inhalation LC₅₀ (4h) for rats >3.21mg/L (*Data From experimental report)*

Skin corrosion/irritation	Not irritant to skin (Rabbit) (<i>Data From experimental report</i>)
Serious eye damage/irritation	Irritant to eyes. (Rabbit) (<i>Data From experimental report</i>)
Respiratory or skin sensitization	Not a skin sensitizer (Maximisation test) (<i>Data From experimental report</i>)
Germ cell mutagenicity	Penconazole: Not mutagenic. (BCPC, <i>e-The Pesticide Manual, Thirteenth Edition</i>)
Carcinogenicity	Penconazole: No carcinogenic effects. (BCPC, <i>e-The Pesticide Manual, Thirteenth Edition</i>)
Reproductive toxicity	Penconazole: Not teratogenic (BCPC, <i>e-The Pesticide Manual, Thirteenth Edition</i>)
STOT-single exposure	No available data.
STOT-repeated exposure	No available data.
Aspiration hazard	No available data.
Further information	No available data.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Eco-toxicity

Birds	Acute oral LD ₅₀ (8 d) for Japanese quail 2424, Pekin ducks >3000, mallard ducks >1590 mg/kg. LC ₅₀ (8 d) for bobwhite quail and mallard ducks >5620 ppm.
Fish	LC ₅₀ (96 h) for <i>Oncorhynchus mykiss</i> 1.13 mg/l. Chronic 21 day NOEC, for <i>Pimephales promelas</i> , 0.36mg/l.(<i>Data from PPDB</i>)
Daphnia	LC ₅₀ (48 h) for <i>Daphnia magna</i> 6.75 mg/l. Chronic 21 day NOEC for <i>Pimephales promelas</i> , 0.06mg/l.(<i>Data from PPDB</i>)
Algae	Acute EC ₅₀ (72 h, growth) for <i>Pseudokirchneriella subcapitata</i> 4.9 mg/l. (<i>Data from</i>

PPDB)

Bees Non-toxic to bees; LD₅₀ (oral and topical) >5 µg/bee.

Worms LC₅₀ (14 d) for earthworms >1000 mg/kg.

Above data is from BCPC, e-The Pesticide Manual, Thirteenth Edition

12.2 Persistence and degradability

DT₅₀ in soil is 133-343 d, depending on soil type. Moderate persistent.

12.3 Bio-accumulative potential

BCF = 320. K_{OW} logP = 3.72 (pH 5.7, 25 °C).

12.4 Mobility in soil

Slightly mobile (*Data from PPDB*).

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/IMO:

UN number: 3077

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S
(Containing Penconazole 97%)

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: III (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.