



Identification of the substance or mixture and of the company/undertaking

Product identifier.

Tebuconazole (BSI, draft E-ISO)

Relevant identified uses of the substance or mixture and uses advised against

Fungicide

Details of the supplier of the safety data sheet.

SPARCHEM

159, Ashoka Shopping Centre, 2nd Flr.,

L.T. Marg, Mumbai - 400001,

Telephone number: 0091- 22-22642642

E-mail: response@sparchem.com

Emergency telephone number

0091- 22-22642642

Hazards identification

Classification of the substance or mixture

Classification as per Directives 67/548/EEC:

Repr. Cat. 3; R63

Xn; R22

N; R51-53

Classification as per Regulation (EC) No 1272/2008:

Repr. 2, H361d ***

Acute Tox. 4 *, H302

Aquatic Chronic 2, H411

Label elements - Pictogram, Signal Word Code(s)

GHS07

GHS08

GHS09

Hazard statement Code(s)

H361d***: Suspected of damaging the unborn child.

H302: Harmful if swallowed.

H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P281: Use personal protective equipment as required.

P308 + P313: IF exposed or concerned: Get medical advice/attention.

P405: Store locked up.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330: Rinse mouth.

P273: Avoid release to the environment.

P391: Collect spillage.

P501: Dispose of contents/container in accordance with local/regional/national/regulation.

Other hazards

Toxic to aquatic life with long lasting effects. Does not meet the criteria for vPvB in accordance with Annex XIII of REACH.

Composition/information on ingredients

Substances

Chemical name	CAS No/ EC No	Index No.	Classification (Directives 67/548/EEC)	Classification (Regulation (EC) No 1272/2008)	Con. % w/w
Tebuconazole (ISO)	107534-96-3/ 403-640-2	603-197- 00-7	Repr. Cat. 3; R63 Xn; R22 N; R51-53	Repr. 2, H361d *** Acute Tox. 4 *, H302 Aquatic Chronic 2, H411	97.0 (min)

First aid measures

Description of first aid measures

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

IF INHALED: Avoid breathing dust/fume/gas/mist/ vapours/spray. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

IF EYE CONTACT, immediately flush with plenty of water at least for 15 minutes.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Most important symptoms and effects, both acute and delayed

The symptoms of acute poisoning described in rats consisted of sedation, locomotor incoordination, spastic gait and emaciation. Chronic or delayed effect: this product or its components may have target organ effects.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically

Topical vitamin E (tocopherol acetate) has been shown to reduce skin irritation if applied soon after exposure.

Firefighting measures

Extinguishing media

If product is involved in a fire, use water spray, foam, dry powder, carbon dioxide or sand. Keep nearby containers and equipment cool with a water stream.

Special hazards arising from the substance or mixture

The substance decomposes on burning producing toxic fumes including nitrogen oxides hydrogen chloride and hydrogen fluoride. Do not breathe fumes. Wear self-contained breathing apparatus.

Advice for firefighters

Whenever this product involved in a major fire, firefighters to wear boots, overalls, gloves, eye and face protection and breathing apparatus. Keep containers cool with water spray. Cypermethrin is toxic to fish and water should be used only to cool unaffected stock.

Accidental release measures

Personal precautions, protective equipment and emergency procedures.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Remove ignition sources and need to evacuate the danger area or to consult an expert. When dealing with a spillage do not eat, drink or smoke.

Environmental precautions

Do not discharge into the drains/surface water/groundwater.

Methods and material for containment and cleaning up

Transfer any product remaining in damaged or leaking containers into a clean, empty drum, and label the drum.

Absorb spillage and cover contaminated areas with lime, damp sawdust, and earth or other absorbent material and place in a secure container for safe disposal. Contain a large spillage by a barrier of earth or sandbags. Prevent liquid from spreading to other cargo, vegetation, or waterways. Clean contaminated floors and objects thoroughly with plenty of water, observing environmental regulations.

Reference to other sections

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

Handling and storage

Precautions for safe handling

Ensure good ventilation. Avoid build up of dust. Wear full protective clothing by those handling concentrates. Adequate washing facilities should be available at all times and should be close to site of handling. Eating, drinking and smoking should be prohibited during handling. Wash hands after use and to remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities

It should be stored in clearly labelled rigid and leak proof containers and away from containers of food and drink. Storage should be under lock and key and secure from access by children and other unauthorized persons. Store in a well-ventilated place. Do not store together with oxidizing agents & strong alkalies.

Specific end use(s)

When opening a container and mixing, protective impermeable boots, clean overalls impermeable gloves, eye protection and a respirator should be worn. Avoid contact to mouth and eyes. Before eating, drinking or smoking, hands and other exposed skin should be thoroughly washed with alkaline soap.

Exposure controls/personal protection

Control parameters

Occupational exposure limit

Exposure limit values are not available.

DNEL and PNEC values

Not available

Exposure controls

Appropriate engineering controls

Mechanical ventilation should be used when handling this product in closed spaces.

Individual protection measures, such as personal protective equipment**General precautions**

Do not inhale dust.

Eye/face protection

Wear safety goggles with imperforated side shield and face shield.

Skin protection

Avoid contact with skin. Wear apron, boots and full protective suit.

Respiratory protection

Wear dust mask. Use respiratory protection in case of insufficient exhaust ventilation or prolonged exposure.

Thermal hazards

Whenever this product involved in a major fire, firefighters to wear boots, overalls, gloves, eye and face protection and breathing apparatus.

Environmental exposure controls

Keep away from food, drink and animal feed stuff. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheet.

Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Colourless to light brown powder

Odour

Odourless

Odour threshold

Not available

PH

Not available

Melting point/freezing point

105°C

Initial boiling point and boiling range

Not available

Flash point

Not available

Evaporation rate

Not applicable

Flammability (solid, gas)

Non-flammable

Upper/lower flammability or explosive limits

Non-explosive

Vapour pressure

1.7×10^{-3} mPa (20 °C)

Relative density

1.25 (26 °C)

Solubility(ies)

In water 36 mg/l (pH 5-9, 20 °C). In dichloromethane >200, isopropanol, toluene 50-100, hexane <0.1 (all in g/l, 20 °C).

Partition coefficient: n-octanol/water

KOW : logP = 3.7 (20 °C)

Auto-ignition temperature

Not available

Decomposition temperature

Not available

Viscosity

Not available

Explosive properties

Non-explosive

Oxidising properties

Non-oxidizer

Other information

Henry: 1×10^{-5} Pa m³ mol⁻¹ (20 °C)

Stability and reactivity**Reactivity**

Unstable in strong alkaline and oxidising agents

Chemical stability

Stable for two years at ambient conditions.

Possibility of hazardous reactions

Incompatible with oxidizing materials.

Conditions to avoid

Avoid excessive heat and flame.

Incompatible materials

Metal containers.

Hazardous decomposition products

Keep away from strong oxidizers & alkaline materials.

Toxicological information

Information on toxicological effects Acute toxicity, oral, dermal, inhalation

Oral LD50: 4000 mg/kg bw (Rats)

Dermal LD50: >2000 mg/kg bw (Rats)

Inhalation LC50 (4h): for rats 0.37 mg/l air (aerosol), >5.1 mg/l (dust).

Skin Corrosion/Irritation

Non-irritant to skin of rabbits

serious eye damage/irritation

Mild irritant to rabbits eyes

respiratory or skin sensitisation

Non-sensitiser to skin of Guinea pigs

germ cell mutagenicity

Non-mutagenic

Carcinogenicity

Tebuconazole is classified by EPA as a Group C. carcinogen (possible human carcinogen) based on liver tumors in mice and no evidence of carcinogenicity in rats.

Reproductive toxicity

Tebuconazole is not considered a primary reproductive toxicant in rats. Reproductive effects (e.g. smaller litters) were observed at the highest concentration, but were secondary to maternal toxicity.

STOT-single exposure

Not applicable

STOT-repeated exposure

Not applicable

Aspiration hazard

Chemical pneumonitis resulting from aspiration of the solvent into the lungs is a hazard that occurs when liquid formulations are used.

Ecological information

Toxicity

Fish, Bluegill sunfish

LC50 (96 h): for rainbow trout 4.4, bluegill sunfish 5.7 mg/l (flow through).

Daphnia magna

LC50 (48 h): 4.2 mg/l (flow through).

Algae,

ErC50 (96 h) for Scenedesmus subspicatus 4.01 mg/l (static).

Bees

LD50 (48 h) (oral) 175.8 µg/bee; (contact) 0.6 µg/bee

Worm

Acute LC50 (14 d) for Eisenia foetida 1381 mg/kg dry soil

Birds, Mallard ducks

Acute oral LD50 for male Japanese quail 4438, female Japanese quail 2912, bobwhite quail 1988 mg/kg b.w. Dietary LC50 (5 d) for mallard ducks >4816, bobwhite quail >5000 mg/kg feed.

Persistence and degradability

The degradation of tebuconazole in soil was slow in laboratory studies. Under field conditions, the compound degraded much more rapidly, and did not accumulate in long-term studies (3-5 y).

Bioaccumulative potential

Little potential of bioaccumulation.

Mobility in soil

Adsorption/desorption studies indicated a low mobility in the soil, groundwater contamination through leaching can be excluded.

Results of PBT and vPvB assessment

Toxic to aquatic life with long lasting effects. Does not meet the criteria for vPvB in accordance with Annex XIII of REACH.

Other adverse effects

When used as recommended, it is unlikely that Tebuconazole and its degradation products will reach levels of adverse environmental significance.

Disposal considerations**Waste treatment methods****Product Disposal**

Avoid exposure, if possible by the use of appropriate protective clothing and masks. Dispose of in a pesticide approved landfill, or in a chemical incinerator equipped with scrubbers. Dispose in a safe manner in accordance with local/national regulations

Never pour waste or surplus products into public sewers or where there is any danger of run-off or seepage to streams, watercourses, open waterways, ditches, fields with drainage systems, or to the catchment areas of boreholes, wells, springs, or ponds.

Package disposal

Puncture containers to prevent reuse. Dispose of container in accordance with local regulation.

Transport information

UN number

2588

UN proper shipping name

PESTICIDE, SOLID, TOXIC, N.O.S. (Tebuconazole Technical)

Transport hazard class(es)

ADR: 6.1

IMDG: 6.1

ICAO/IATA: 6.1

RID: 6.1

Packing group

III

Environmental hazards

Tebuconazole designated as marine pollutant.

Special precautions for user

Ensure that containers are sound and that labels are securely fixed and undamaged before dispatch. Do not load together with food and animal feed.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not relevant

Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Tebuconazole has been classified under Dangerous substances Directive (67/548/EEC) & Regulation No 1272/2008.

Chemical safety assessment

Evaluated by EFSA.

Other information

Indication of changes

Changes have been made in all section.

Abbreviations and acronyms

LD50: Lethal Dose, 50%

LC50: Lethal Concentration, 50%

STOT: Specific Target Organ Toxicity

DNEL: Derived No Effect Level

PNEC: Predicted No Effect Concentration

ADR: International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

ICAO/IATA: International Civil Aviation Organization /International Airlines Travel Agent

RID: International Carriage of Dangerous Goods by Rail

Key literature references and sources for data

-World Health Organization for the International Programme on Chemical Safety.

-BCPC, Pesticide Manual

Text of R-phrases mentioned in Section 3:

R63: Possible risk of harm to the unborn child.

R22: Harmful if swallowed.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Text of the hazard statements mentioned in Section 3:

H361d***: Suspected of damaging the unborn child.

H302: Harmful if swallowed.

H411: Toxic to aquatic life with long lasting effects.

Training

Training of workers in techniques to avoid contact with substance is essential.

Liability

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

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