



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

Product identifier.

Difenoconazole (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: Not classified.

Classification as per Regulation (EC) No 1272/2008: Not classified.

As per EFSA review: Xn; R22.

Label elements - Pictogram, Signal Word Code(s)

GHS07

GHS09

Hazard statement Code(s)

H302: Harmful if swallowed.

H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

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
Difenoconazole (ISO), 3-chloro-4- [(2RS,4RS;2RS,4SR)-4- methyl-2-(1H-1,2,4-triazol-1- ylmethyl)-1,3-dioxolan-2- yl]phenyl 4-chlorophenyl ether	119446-68-3	NA	NA	NA	95.0 (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.

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

Harmful if swallowed

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No specific antidote available.

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

May give off toxic fumes if heated to decomposition. 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. Water should be used only to cool the 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 containers into a clean, empty drum, and label the drum. Collect product in containers for safe disposal.

Prevent 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.

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

US OSHA Permissible Exposure Levels (PELs): difenoconazole (Inert or Nuisance Dust: (d) Total dust): TWA 15 mg/m².

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

White to light beige powder

Odour

Slightly sweetish odour

Odour threshold

Not available

PH

6.9 (1 %; Dispersion in deionised water; 25 °C)

Melting point/freezing point

82-83 °C

Initial boiling point and boiling range

Not applicable

Flash point

Not available

Evaporation rate

Not applicable

Flammability (solid, gas)

Non-flammable

Upper/lower flammability or explosive limits

Non-explosive

Vapour pressure

3.3×10^{-5} mPa (25 °C)

Relative density

1.40 (20 °C)

Solubility(ies)

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

KOW : logP = 4.20 (25 °C)

Auto-ignition temperature

Not available

Decomposition temperature

Decomposition starts at about 337°C (99.3%)

Viscosity

Not available

Explosive properties

Non-explosive

Oxidising properties

Non-oxidizer

Other information

Henry: 1.5×10^{-6} Pa m³ mol⁻¹ (calc.)

Stability and reactivity

Reactivity

Not available

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

Strong oxidising agents.

Hazardous decomposition products

Keep away from direct sunlight.

Toxicological information

Information on toxicological effects

Information on toxicological effects

Acute toxicity, oral, dermal, inhalation	:	Oral LD50: 1453 mg/kg bw (Rats) Dermal LD50: >2000 mg/kg bw (Rats)
Skin corrosion/irritation	:	Non-irritant to skin of rabbits
Serious eye damage/irritation	:	Non-irritant to rabbits eyes
Respiratory or skin sensitisation	:	Non-sensitiser to skin of Guinea pigs
Germ cell mutagenicity	:	Non-mutagenic
Carcinogenicity	:	Non-carcinogenic
Reproductive toxicity	:	Non-reprotoxic and teratogenic
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

Toxicity

Fish	:	LC50 (96 h) for rainbow trout 0.8, bluegill sunfish 1.2, sheepshead minnow 0.82 mg/l.
<i>Daphnia</i> spp.	:	LC50 (48 h): 0.77 mg/l.
<i>Scenedesmus subspicatus</i> , 72 hours	:	EC50: 1.2 mg/l
Bees	:	Non-toxic to honeybees; LD50 (oral) >187 µg/bee; LC50 (contact) >100 µg/bee.
Acute toxicity Earthworm	:	LC50 :> 610 mg/kg.
Birds, mallard ducks	:	LD50: >2150 mg/kg.
Persistence and degradability	:	Soil dissipation rate is slow and dependent on application rate. DT50 for photolysis 145 d (natural sunlight).
Bioaccumulative potential	:	A bioconcentration factor of 330 obtained for whole fish may indicate some potential for bioaccumulation however the risk from secondary poisoning was assessed as low.
Mobility in soil	:	Practically immobile in soil, strong adsorption to soil particles, low potential to leach below top soil layer.
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 Difenoconazole 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. (Difenoconazole Technical)

Transport hazard class(es)

ADR: 6.1

IMDG: 6.1

ICAO/IATA: 6.1

RID: 6.1

Packing group

III

Environmental hazards

Difenoconazole 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**

Evaluated by EFSA.

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
-EFSA evaluation

Text of R-phrases mentioned in Section 3:

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:

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

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