



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

Product identifier.

Hexaconazole (BSI, ANSI, draft E-ISO, (m) draft F-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:

Xn; R22

R43

N; R50-53

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

Acute Tox. 4 *, H302

Skin Sens. 1, H317

Aquatic Acute 1, H400

Aquatic Chronic 1, H410

Label elements - Pictogram, Signal Word Code(s)

GHS07

GHS09

Hazard statement Code(s)

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H410: Very 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.

P261: Avoid breathing dust/fume/gas/mist/ vapours/spray.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P321: Specific treatment-treat symptomatically.

P363: Wash contaminated clothing before reuse.

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

P273: Avoid release to the environment.

P391: Collect spillage.

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
Hexaconazole (ISO) (RS)-2-(2,4- dichlorophenyl)-1-(1H- 1,2,4-triazol-1-yl)hexan-2- ol	79983-71- 4/ 413-050- 7	613-171- 00-7	Xn; R22 R43 N; R51-53	Acute Tox. 4 *, H302 Skin Sens. 1, H317 Aquatic Chronic 2, H411	92.0 (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

Prolonged or repeated exposure may irritate the respiratory tract and eyes and may cause headaches and dizziness. Some individuals may develop an allergic response.

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 or leaking containers into a clean, empty drum, and label the drum.

Absorb spillage and cover contaminated areas with lime, sawdust, sand, diatomaceous 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

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 alkalis.

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

White to off white crystalline powder

Odour

Odourless

Odour threshold

Not available

PH

Not available

Melting point/freezing point

110-112 °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

0.018 mPa (20 °C)

Relative density

1.29 g/cm³ (25 °C)

Solubility(ies)

In water 0.017 g/l (20°C). In dichloromethane 336, methanol 246, acetone 164, ethyl acetate 120, toluene 59, hexane 0.8 (all in g/l, 20 °C)

Partition coefficient: n-octanol/water

KOW : logP = 3.9 (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: 3.33×10^{-4} Pa m³ mol⁻¹ (calc.)

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

Strong alkaline and oxidising agents.

Hazardous decomposition products

Keep away from strong oxidizers & alkaline materials.

Toxicological information

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

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

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

Inhalation LC50 >3.63 mg/l (Rats)

Skin Corrosion/Irritation

Non-irritant to skin of rabbits

serious eye damage/irritation

Minimally irritation 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**Guppy, *Poecilia reticulata*, 96 hours**

EC50: 9.04 mg/l

Daphnia magna, 48 hours

EC50: 3.70 mg/l

Chlorella vulgaris, 72 hours

EC50: 8.10 µg/ml

Bees, *Apis indica*

LC50: 0.33 w/v

Acute toxicity Earthworm, *Lampito mauritii*

Hexaconazole technical exhibited only 37.50% mortality to earthworm even at a higher doses level of 1000 mg/kg (dry wt. of soil)

Birds, Mallard ducks

LD50:>4000 mg/kg

Persistence and degradability

Hexaconazole was not susceptible to chemical hydrolysis or to phototransformation, and was not likely to volatilize from water or moist soil. Microbial action was important in the transformation of Hexaconazole in soils. Laboratory aerobic soil studies demonstrated that Hexaconazole was persistent in loamy sand soil and moderately persistent in sandy loam and silty clay loam soils.

Bioaccumulative potential

A log Kow value of 3.9 indicates a potential for bioaccumulation, where Kow is the octanol–water partition coefficient. However, data from studies on fish and residue levels of hexaconazole in rat and goat tissue and milk showed that bioaccumulation was limited.

Mobility in soil

Laboratory soil adsorption and leaching studies and field soil dissipation studies indicated that Hexaconazole had negligible leaching potential and is not expected to contaminate groundwater through leaching.

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

With recommended application rates it is unlikely that Lambda-cyhalothrin or its degradation products will attain levels of environmental significance. Notwithstanding its high toxicity for fish and honey bees, this is only likely to cause a problem in the case of spillage and over spraying.

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. (Hexaconazole Technical)

Transport hazard class(es)

ADR: 6.1

IMDG: 6.1

ICAO/IATA: 6.1

RID: 6.1

Packing group

III

Environmental hazards

Hexaconazole 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**

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

Chemical safety assessment

Evaluation of ADI has been performed by National Institute of Public Health and Environmental Protection, Bilthoven, Netherlands

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

-Our study reports

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

-BCPC, Pesticide Manual

-Submission Management and Information Division, Pest Management Regulatory Agency, Canada

Text of R-phrases mentioned in Section 3:

R22: Harmful if swallowed.

R43: May cause sensitisation by skin contact

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

H317: May cause an allergic skin reaction

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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