

Chemical Safety Data Sheet MSDS / SDS

Pyrethrins and Pyrethroids SDS

Revision Date:2024-04-25 Revision Number:1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name: Pyrethrins and Pyrethroids

CAS: 8003-34-7

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification**Classification of the substance or mixture**

Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal

Acute toxicity - Category 4, Inhalation
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P317 Get medical help.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391 Collect spillage.

Storage

none

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name: Pyrethrins and Pyrethroids

Common names and synonyms: Pyrethrins and Pyrethroids

CAS number: 8003-34-7

EC number: 232-319-8

Concentration: 100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Give a slurry of activated charcoal in water to drink. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Exposure Routes: inhalation, ingestion, skin and/or eye contact Symptoms: Erythema, dermatitis, papules, pruritus, rhinorrhea (discharge of thin mucus); sneezing; asthma Target Organs: respiratory system, skin, central nervous system (NIOSH, 2016)

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

Antihistamines are effective in controlling most allergic reactions. Severe asthmatic reactions, particularly in predisposed persons, may require administration of inhaled B2-agonists and/or systemic corticosteroids. Inhalation exposure should be carefully avoided in the future. Pyrethrum and pyrethrins

SECTION 5: Firefighting measures

Suitable extinguishing media

Fire-fighting: Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive-pressure mode.

Specific hazards arising from the chemical

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. For UN3508, be aware of possible short circuiting as this product is transported in a charged state. (ERG, 2016)

Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance. Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: filter respirator for organic gases and particulates adapted to the airborne concentration of the substance.

Ventilation. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

If pyrethrum is spilled, the following steps should be taken: 1) Ventilate area of spill. 2) For small quantities, sweep onto paper or other suitable material, place in an appropriate container and burn in a safe place (such as a fume hood). Large quantities may be reclaimed; however, if this is not practical, dissolve in a flammable solvent (such as alcohol) and atomize in a suitable combustion chamber.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. NO contact with oxidizing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and food and feedstuffs. Well closed. Provision to contain effluent from fire extinguishing. Pyrethrins with piperonyl butoxide topical preparations should be stored in well-closed containers at a temperature less than 40 deg C, preferably between 15-30 deg C. Pyrethrins

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 5 mg/m³, as TWA; A4 (not classifiable as a human carcinogen). MAK: sensitization of skin (SH). EU-OEL: 1 mg/m³ as TWA

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles or eye protection in combination with breathing protection.

Skin protection

Protective clothing.

Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Pyrethrins, [solid] is a colorless to white liquids (or tan dusts). Primarily a threat to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrate the soil, contaminate groundwater or nearby waterways. Toxic by inhalation, skin absorption and/or ingestion. Used as pesticide. Practically insoluble in water.
Colour:	Refined extract is pale yellow mobile oil; unrefined extract is a dark greenish brown viscous liquid; powder (ground flowers) is a tan color.
Odour:	Characteristic odor of carrier
Melting point/freezing point:	90-95°C(lit.)
Boiling point or initial boiling point and boiling range:	170~200
Flammability:	Class IIIA Combustible Liquid: Fl.P. at or above 140°F and below 200°F.
Lower and upper explosion limit/flammability limit:	no data available

Flash point:	75°C
Auto-ignition temperature:	no data available
Decomposition temperature:	170°C at 0.01 kPa
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Insoluble (NIOSH, 2016)
Partition coefficient n-octanol/water:	log Kow = 6.15 (est)
Vapour pressure:	Low (NIOSH, 2016)
Density and/or relative density:	1.04g/cm ³
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces smoke and irritating fumes. Reacts with strong oxidants. This generates fire and explosion hazard.

Chemical stability

Pyrethrums are highly unstable in the presence of light, moisture, and air. Whole flowers decompose more slowly than ground flowers or dust. Stored powders lose about 20% of their potency in one year. The potency of the pyrethrums can best be preserved in sealed, lightproof containers kept at lower temperatures.

Possibility of hazardous reactions

Combustible when exposed to heat or flame. PYRETHRINS decompose rapidly in base; may generate heat with caustic solutions. May also react with acids to liberate heat. Generate flammable hydrogen with alkali metals and hydrides.

Conditions to avoid

no data available

Incompatible materials

Incompatible with lime and ordinary soaps because acids & alkalies speed up processes of hydrolysis. Pyrethrins

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information**Acute toxicity**

Oral: LD50 Rat oral 584 to 900 mg/kg (irrespective of grade or solvent)

Inhalation: LC50 Rat inhalation 3.4 mg/l/4 hr Pyrethrins

Dermal: LD50 Rat percutaneous greater than 1500 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Cancer Classification: Suggestive Evidence of Carcinogenicity, but Not Sufficient to Assess Human Carcinogenic Potential Pyrethrins

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the nervous system.

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: *Oncorhynchus mykiss* (Rainbow Trout) length 33 mm (30-38 mm), weight 0.3 g (0.2-0.4 g); Conditions: freshwater, static, 13 deg C, pH 7.1, alkalinity 35 mg/L CaCO₃; Concentration: 56 ug/L for 24 hr (95% confidence interval: 49-64 ug/L) /24.6% pyrethrum formulation

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water Flea) age < or =24 hr; Conditions: freshwater, flow through; Concentration: 11.6 ug/L for 48 hr (95% confidence interval: 9.6-14.2 ug/L); Effect: intoxication, immobilization /57.49% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Pyrethrum is a mixture of pyrethrin compounds and specific biodegradation data are not available(SRC). However, the pyrethrin class of insecticides is degraded readily by ambient microorganisms; therefore, pyrethrum is expected to biodegrade readily(1,2).

Bioaccumulative potential

An estimated BCF of 290 was calculated in fish for pyrethrum(SRC), using an estimated log Kow of 6.15(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is high(SRC).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of pyrethrum can be estimated to be 10,000(SRC). According to a classification scheme(2), this estimated Koc value suggests that pyrethrum is expected to be immobile in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN2810 (For reference only, please check.)

IMDG: UN2810 (For reference only, please check.)

IATA: UN2810 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

IMDG: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

IATA: TOXIC LIQUID, ORGANIC, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Not Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

Pyrethrum is a mixture of pyrethrin I and II, cinerin I and II, and jasmolin I and II. Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any