Safety Data Sheet

According to the UN GHS revision 8

Creation Date: May 03, 2026
Revision Date: May 03, 2026

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: Resmethrin

Catalog Number: T20813

CAS Number: 10453-86-8

1.2 Other means of identification

Other names: -

1.3 Recommended use of the chemical and restrictions on use

Identified uses: no data available

1.4 Supplier's details

Company: Targetmol Chemicals Inc.

Address: 34 Washington Street, Wellesley Hills, Massachusetts 02481 USA

Tel/Fax: (781) 999-4286

1.5 Emergency phone number

Emergency phone number: 781-999-4286

Service hours: Monday to Friday, 9am-5pm (Standard timezone: UTC/GMT -5 hours).

2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

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

2.2 GHS label elements, including precautionary statements

Pictogram(s):

Signal word: Warning

Hazard statement(s):
H302 Harmful if swallowed
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.
P273 Avoid release to the environment.

Response:
P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
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.

2.3 Other hazards which do not result in classification

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number
Resmethrin	-	10453-86-8	233-940-7

4. FIRST-AID MEASURES

4.1 Description of necessary first-aid measures

General advice

no data available

If inhaled

Fresh air, rest.

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

Rinse mouth.

4.2 Most important symptoms/effects, acute and delayed

Emergency and supportive measures: Treat bronchospasm and anaphylaxis if they occur. Observe patients with a history of large ingestions for at least 4-6 hours for any signs of CNS depression or seizures. Pyrethrins and pyrethroids

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

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]: Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Inhalation of Asbestos dust may have a damaging effect on the lungs. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. (ERG, 2016)

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Use carbon dioxide, foam, or dry chemical /on fires involving pyrethroids/. Pyrethrum

5.2 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)

5.3 Special protective actions for fire-fighters

Use powder, AFFF, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Do NOT let this chemical enter the environment. Do NOT wash away into sewer. 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.

6.3 Methods and materials for containment and cleaning up

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a POTW is acceptable only after review by the governing authority. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must meet Hazardous Material Criteria for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

NO open flames. 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.

7.2 Conditions for safe storage, including any incompatibilities

Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.... /Store/ under dry conditions.

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 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.

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

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

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

Thermal hazards

no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Color	no data available
Odour	Chrysanthemate odor
Melting point/freezing point	56.5 deg C (pure (1-RS)-trans isomer)
Boiling point or initial boiling point and boiling range	418.3°C at 760 mmHg
Flammability	Combustible. Liquid formulations containing organic solvents may be flammable.
Lower and upper explosion limit/flammability limit	no data available
Flash point	206.8°C

Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	DMSO: Soluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
N-octanol-water partition coefficient	log Kow = 5.43
Vapour pressure	3.32E-07mmHg at 25°C
Density and/or relative density	1.111g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Decomposes on heating. This produces irritating fumes.

10.2 Chemical stability

Stable to heat and to oxidation. Decomposes rapidly on exposure to air and light (more slowly than pyrethrins). Unstable in alkaline media.

10.3 Possibility of hazardous reactions

Liquid formulations containing organic solvents may be flammable.A pyrethroid derivative.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatibility: Strong oxidizers. Pyrethrins

10.6 Hazardous decomposition products

When heated to decomp it emits acrid and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 Rat oral 1400 mg/kg
Inhalation: LC50 Rat inhalation >9490 mg/cu m/4 hr
Dermal: LD50 Rat percutaneous >3000 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: Likely to be Carcinogenic to Humans

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes and skin.

STOT-repeated exposure

no data available

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill, weight 0.6 g); Conditions: freshwater, static, 18 deg C, pH 7.4, hardness 44 mg/L CaCO3; Concentration: 17.4 ug/L for 24 hr (95% confidence interval: 6.1-49.7 ug/L) /84% purity, technical material
Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea, age <24 hr); Conditions: freshwater, static; Concentration: 110 ug/L for 48 hr; Effect: intoxication, immobilization /40% purity
Toxicity to algae: no data available
Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Although environmental biodegradation data specific to resmethrin are not available, the pyrethroid class of insecticides is readily degraded by environmental microorganisms(1,2). Pyrethroids are metabolized by both hydrolytic and oxidative processes(2). Both (+) cis and (+) trans undergo isomerization during the formation of metabolites by ester cleavage and oxidation(2).

12.3 Bioaccumulative potential

An estimated BCF of 98 was calculated for resmethrin(SRC), using a log Kow of 5.43(1) and a regression derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC).

12.4 Mobility in soil

The Koc of resmethrin is estimated at 3.1X10+5(SRC), using a measured log Kow of 5.43(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that resmethrin is expected to be immobile in soil(SRC).

12.5 Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

13.1 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.

14. TRANSPORT INFORMATION

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

15. REGULATORY INFORMATION

15.1 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)	Not Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Not Listed.
Vietnam National Chemical Inventory	Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.
Korea Existing Chemicals List (KECL)	Listed.

16. OTHER INFORMATION

Information on revision

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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

Carrier solvents used in commercial formulations may change physical and toxicological properties.See ICSCs 0229 and 0239.