

Cypermethrin Formulation

Version 2.2 Revision Date: 30.09.2023 SDS Number: 6116889-00011 Date of last issue: 02.03.2023
Date of first issue: 15.07.2020

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Cypermethrin Formulation

Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION


GHS Classification in accordance with ABNT NBR 14725 Standard

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H361f Suspected of damaging fertility.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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Response:

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

P391 Collect spillage.

Storage:

P405 Store locked up.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Soya oil	8001-22-7	Long-term (chronic) aquatic hazard, Category 4	≥ 90 - ≤ 100
Cypermethrin	52315-07-8	Acute toxicity (Oral), Category 4 Acute toxicity (Dermal), Category 5 Reproductive toxicity, Category 2 Specific target organ toxicity - single exposure (Nervous system), Category 2 Short-term (acute) aquatic hazard, Category 1 Long-term (chronic) aquatic hazard, Category 1	≥ 5 - < 10

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.

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In case of eye contact	:	Thoroughly clean shoes before reuse. Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Suspected of damaging fertility.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NO _x)
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate

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container.
 Clean up remaining materials from spill with suitable absorbent.
 Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
 Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not breathe mist or vapors.
 Do not swallow.
 Avoid contact with eyes.
 Avoid prolonged or repeated contact with skin.
 Wash skin thoroughly after handling.
 Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
 Do not eat, drink or smoke when using this product.
 Take care to prevent spills, waste and minimize release to the environment.
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
 When using do not eat, drink or smoke.
 Wash contaminated clothing before re-use.
 The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Conditions for safe storage : Keep in properly labeled containers.
 Store locked up.
 Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
 Strong oxidizing agents
 Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cypermethrin	52315-07-8	TWA	50 µg/m ³ (OEB 3)	Internal
Further information: DSEN, Skin				
		Wipe limit	100 µg/100 cm ²	Internal

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Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
Laboratory operations do not require special containment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapor type

Hand protection
Material : Chemical-resistant gloves

Eye protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : yellow

Odor : characteristic

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : -30 °C

Initial boiling point and boiling range : 210 °C

Flash point : 208 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower : No data available

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flammability limit

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 0,92 - 0,94

Density : No data available

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle size : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Can react with strong oxidizing agents.

Conditions to avoid : None known.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 5.000 mg/kg

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Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5.000 mg/kg
Method: Calculation method

Components:**Cypermethrin:**

Acute oral toxicity : LD50 (Rat, female): 367 mg/kg
LD50 (Rat, male): 891 mg/kg
Acute dermal toxicity : LD50 (Rat): > 4.800 mg/kg
LD50 (Rabbit): > 2.400 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:**Cypermethrin:**

Species : Rabbit
Method : Draize Test
Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:**Cypermethrin:**

Species : Rabbit
Result : No eye irritation
Method : Draize Test

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:**Cypermethrin:**

Test Type : Magnusson-Kligman-Test
Species : Guinea pig
Assessment : Did not cause sensitization on laboratory animals.
Result : Not a skin sensitizer.

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Germ cell mutagenicity

Not classified based on available information.

Components:

Cypermethrin:

- | | | |
|-------------------------------------|---|--|
| Genotoxicity in vitro | : | <p>Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Result: negative</p> <p>Test Type: Microbial mutagenesis assay (Ames test)
Result: negative</p> <p>Test Type: sister chromatid exchange assay
Test system: Human lymphocytes
Result: negative</p> |
| Genotoxicity in vivo | : | <p>Test Type: In vivo micronucleus test
Species: Rat
Application Route: Oral
Result: positive</p> <p>Test Type: In vivo micronucleus test
Species: Rat
Application Route: Dermal
Result: positive</p> <p>Test Type: In vivo micronucleus test
Species: Rat
Application Route: Intraperitoneal injection
Result: negative</p> |
| Germ cell mutagenicity - Assessment | : | Weight of evidence does not support classification as a germ cell mutagen. |

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging fertility.

Components:

Cypermethrin:

- | | | |
|----------------------|---|--|
| Effects on fertility | : | <p>Test Type: Fertility
Species: Rat, male
Application Route: Oral
Fertility: LOAEL: 68 mg/kg body weight
Symptoms: Effects on fertility., male reproductive effects, Testicular effects</p> <p>Test Type: Fertility
Species: Rat, male
Application Route: Oral
Fertility: NOAEL: 6,25 mg/kg body weight</p> |
|----------------------|---|--|

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Target Organs: male reproductive organs, Testis

Effects on fetal development : Test Type: Three-generation reproduction toxicity study
 Species: Mouse
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 5 mg/kg body weight
 Symptoms: No effects on fetal development., No effect on reproduction capacity., Reduced body weight

Test Type: Reproduction/Developmental toxicity screening test
 Species: Rabbit
 Application Route: Oral
 Teratogenicity: NOAEL: 30 mg/kg body weight
 Symptoms: No effects on fetal development.

Test Type: Reproduction/Developmental toxicity screening test
 Species: Rat
 Application Route: Oral
 Teratogenicity: NOAEL: 17,5 mg/kg body weight
 Symptoms: No effects on fetal development.

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT-single exposure

Not classified based on available information.

Components:**Cypermethrin:**

Target Organs : Nervous system
 Assessment : May cause damage to organs.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity**Components:****Soya oil:**

Species : Rat
 NOAEL : 4.000 mg/kg
 Application Route : Ingestion
 Exposure time : 90 h

Cypermethrin:

Species : Rat
 NOAEL : 5 mg/kg
 Application Route : Oral
 Exposure time : 3 Months
 Target Organs : Central nervous system

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Species : Rabbit
 NOAEL : 12,5 mg/kg
 Application Route : Oral
 Exposure time : 3 Months
 Target Organs : Central nervous system

Species : Dog
 NOAEL : 1 mg/kg
 Application Route : Oral
 Exposure time : 1 y
 Symptoms : anxiety, central nervous system effects

Species : Rabbit
 NOAEL : 20 mg/kg
 Application Route : Dermal
 Exposure time : 3 Weeks
 Target Organs : male reproductive organs
 Symptoms : reduced body weight gain, reduced food consumption

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Components:****Cypermethrin:**

General Information : Target Organs: Nervous system
 Symptoms: muscle weakness, central nervous system effects
 Remarks: Based on Human Evidence
 The most common side effects are:
 Remarks: paraesthesias

Further information**Components:****Cypermethrin:**

Remarks : Dermal absorption possible

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Cypermethrin:**

Toxicity to fish : EC50 (Oncorhynchus mykiss (rainbow trout)): 0,39 µg/l
 Exposure time: 96 h

 EC50 (Cyprinodon variegatus (sheepshead minnow)): 0,95 µg/l
 Exposure time: 96 h

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,0036 µg/l
Exposure time: 48 h

EC50 (Americamysis): 0,00475 µg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 100.000

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0,14 µg/l
Exposure time: 30 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Mysidopsis bahia (opossum shrimp)): 0,000781 µg/l
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 100.000

Persistence and degradability**Components:****Cypermethrin:**

Stability in water : Degradation half life (DT50): 17 d

Bioaccumulative potential**Components:****Soya oil:**

Partition coefficient: n-octanol/water : log Pow: > 4
Remarks: Calculation

Cypermethrin:

Bioaccumulation : Bioconcentration factor (BCF): 488

Partition coefficient: n-octanol/water : log Pow: 6,6

Mobility in soil**Components:****Cypermethrin:**

Distribution among environmental compartments : log Koc: 5,58

Stability in soil :

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.

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Contaminated packaging : Dispose of in accordance with local regulations.
: Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cypermethrin)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Cypermethrin)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cypermethrin)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**ANTT**

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cypermethrin)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90

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Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

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

National List of Carcinogenic Agents for Humans - (LINACH) : Not applicable

Brazil. List of chemicals controlled by the Federal Police : Not applicable

The ingredients of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

SECTION 16. OTHER INFORMATION

Revision Date : 30.09.2023
Date format : dd.mm.yyyy

Further information

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Full text of other abbreviations

AICC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Con-

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centration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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