



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

Revision date 01-Aug-2023

Revision Number 1

1. Identification

Product identifier

Product Name Flumethrin

Other means of identification

Product Code(s) TRC-F455050-10G

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Laboratory use

Restrictions on use Not to be used for human or animal consumption

Details of the supplier of the safety data sheet

Supplier Address

VHG
LGC Standards
276 Abby Road
Manchester, NH 03103
UNITED STATES OF AMERICA

Tel : +1 (603) 622-7660
Fax : +1 (603) 622-5180
Email : lgcusa@lgcgroup.com

Web : lgcstandards.com

E-mail sds-request@lgcgroup.com

Emergency telephone number

Emergency Telephone

For Hazardous Materials or Dangerous Goods Incident
Spill, Leak, Fire Exposure, or Accident
Call CHEMTREC:
USA & Canada 1-800-424-9300
Rest of the world +1 703-741-5970

2. Hazard(s) identification



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

Classification

Classified according to OSHA.

| | |
|---|-------------|
| Acute toxicity - Oral | Category 2 |
| Acute toxicity - Dermal | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Skin sensitization | Category 1 |
| Reproductive toxicity | Category 2 |
| Acute aquatic toxicity | Category 1 |
| Chronic aquatic toxicity | Category 1 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Classified according to OSHA.

Fatal if swallowed

Harmful in contact with skin

Fatal if inhaled

Causes serious eye irritation

May cause an allergic skin reaction

Suspected of damaging fertility or the unborn child

Very toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

Wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of water and soap
Call a POISON CENTER or doctor if you feel unwell
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

No information available.

3. Composition/information on ingredients

Substance

Formula C₂₈ H₂₂ Cl₂ F N O₃

| Chemical name | CAS No | Weight-% | Trade secret |
|---------------|------------|----------|--------------|
| Flumethrin | 69770-45-2 | 100 | * |

4. First-aid measures

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

should) give oxygen.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact

Wash with soap and water. May cause an allergic skin reaction. Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.

Ingestion

Get immediate medical advice/attention. Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe vapor or mist. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.

Indication of any immediate medical attention and special treatment needed

Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Product is or contains a sensitizer. May cause sensitization by skin contact.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|-----------------------------|--|
| Personal precautions | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Do not breathe vapor or mist. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| Other information | Refer to protective measures listed in Sections 7 and 8. |

Methods and material for containment and cleaning up

| | |
|--------------------------------|---|
| Methods for containment | Prevent further leakage or spillage if safe to do so. |
| Methods for cleaning up | Pick up and transfer to properly labeled containers. |

7. Handling and storage

Precautions for safe handling

| | |
|--------------------------------|--|
| Advice on safe handling | Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes. |
|--------------------------------|--|

Conditions for safe storage, including any incompatibilities

| | |
|---------------------------|---|
| Storage Conditions | Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. |
|---------------------------|---|

8. Exposure controls/personal protection

Control parameters

| | |
|------------------------|---|
| Exposure Limits | This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. |
|------------------------|---|



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective butyl rubber gloves. Wear protective Viton™ gloves.

Skin and body protection Long sleeved clothing. Wear suitable protective clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

General hygiene considerations Wash hands before breaks and immediately after handling the product. Do not breathe vapor or mist. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|----------------|--------------------------|
| Physical state | Liquid |
| Appearance | Oily |
| Color | light yellow |
| Odor | No information available |
| Odor threshold | No information available |

| Property | Values | Remarks • Method |
|---|-------------------|------------------|
| pH | No data available | None known |
| Melting point / freezing point | 26 °C / 78.8 °F | None known |
| Initial boiling point and boiling range | 250 °C / 482 °F | None known |



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

| | | |
|--|--------------------------|------------|
| Flash point | 104 °C / 219.2 °F | None known |
| Evaporation rate | No data available | None known |
| Flammability | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | No data available | None known |
| Relative vapor density | No data available | None known |
| Relative density | 1.219 | None known |
| Water solubility | No data available | None known |
| Solubility(ies) | Ethyl acetate | |
| Partition coefficient | 6.4 | None known |
| Autoignition temperature | No data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | No data available | None known |
| Other information | | |
| Explosive properties | No information available | |
| Oxidizing properties | No information available | |
| Softening point | No information available | |
| Molecular weight | 510.38 | |
| VOC content | No information available | |
| Liquid Density | No information available | |
| Bulk density | No information available | |

10. Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Excessive heat. |
| Incompatible materials | None known based on information supplied. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

Product Information



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

| | |
|--------------|--|
| Inhalation | Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). |
| Eye contact | Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain. |
| Skin contact | May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May be absorbed through the skin in harmful amounts. Harmful in contact with skin. |
| Ingestion | Specific test data for the substance or mixture is not available. Fatal if swallowed. (based on components). Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|----------|--|
| Symptoms | Coughing and/ or wheezing. Difficulty in breathing. Itching. Rashes. Hives. May cause redness and tearing of the eyes. |
|----------|--|

Acute toxicity

Numerical measures of toxicity

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------------|-----------|----------------------|-----------------|
| Flumethrin 69770-45-2 | - | > 2000 mg/kg (Rat) | - |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-----------------------------------|--|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |
| Respiratory or skin sensitization | May cause an allergic skin reaction. |
| Germ cell mutagenicity | No information available. |
| Carcinogenicity | No information available. |



SAFETY DATA SHEET

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OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

| | |
|--------------------------|--|
| Reproductive toxicity | Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |
| Aspiration hazard | No information available. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information

| | |
|-------------------------------|---|
| Ecotoxicity | Very toxic to aquatic life with long lasting effects. |
| Persistence and degradability | No information available. |
| Bioaccumulation | There is no data for this product. |

Component Information

| Chemical name | Partition coefficient |
|--------------------------|-----------------------|
| Flumethrin 69770-45-2 | 6.4 |

| | |
|-----------------------|---------------------------|
| Other adverse effects | No information available. |
|-----------------------|---------------------------|

13. Disposal considerations

Disposal methods

| | |
|-------------------------------------|---|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Do not reuse empty containers. |



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OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

14. Transport information

DOT

| | |
|---------------------------------|---|
| UN number or ID number | UN3352 |
| Extended proper shipping name | Pyrethroid pesticide, liquid, toxic |
| Transport hazard class(es) | 6.1 |
| Packing group | II |
| Special Provisions | IB2, T11, TP2, TP27 |
| DOT Marine Pollutant | I |
| Marine pollutant | Flumethrin |
| Description | UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, II, Marine pollutant (Flumethrin) |
| Emergency Response Guide Number | 151 |

TDG

| | |
|----------------------------|---|
| UN number or ID number | UN3352 |
| UN proper shipping name | Pyrethroid pesticide, liquid, toxic (Flumethrin) |
| Transport hazard class(es) | 6.1 |
| Packing group | II |
| Special Provisions | 16 |
| Marine pollutant | NP |
| Description | UN3352, Pyrethroid pesticide, liquid, toxic (Flumethrin), 6.1, II |

MEX

| | |
|----------------------------|---|
| UN number or ID number | UN3352 |
| UN proper shipping name | Pyrethroid pesticide, liquid, toxic (Flumethrin) |
| Transport hazard class(es) | 6.1 |
| Packing group | II |
| Technical Name | Flumethrin |
| Description | UN3352, Pyrethroid pesticide, liquid, toxic (Flumethrin), 6.1, II |
| Special Provisions | 61, 274 |

IATA

| | |
|----------------------------|---|
| UN number or ID number | UN3352 |
| UN proper shipping name | Pyrethroid pesticide, liquid, toxic (Flumethrin) |
| Transport hazard class(es) | 6.1 |
| Packing group | II |
| Technical Name | Flumethrin |
| Description | UN3352, Pyrethroid pesticide, liquid, toxic (Flumethrin), 6.1, II |
| Special Provisions | A3, A4 |
| ERG Code | 6L |

IMDG

| | |
|----------------------------|--|
| UN number or ID number | UN3352 |
| UN proper shipping name | Pyrethroid pesticide, liquid, toxic (Flumethrin) |
| Transport hazard class(es) | 6.1 |
| Packing group | II |
| EmS-No. | F-A, S-A |



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

Special Provisions 61, 274
Marine pollutant P
Marine Pollutant Flumethrin
Description UN3352, Pyrethroid pesticide, liquid, toxic (Flumethrin), 6.1, II, Marine pollutant

15. Regulatory information

International Inventories

TSCA Complies under research and development exemption or is regulated by a different government agency.

| Chemical name | CAS No | US TSCA Inventory listing | US TSCA inactive/active designation |
|---------------|------------|---------------------------|-------------------------------------|
| Flumethrin | 69770-45-2 | - | - |

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

DSL/NDSL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Contact supplier for inventory compliance status.
KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AIIC Contact supplier for inventory compliance status.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories



SAFETY DATA SHEET

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OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

| | | | | |
|-----------------------------------|---------------------------|----------------------------------|---------------------------|------------------------------|
| NFPA | Health hazards 4 | Flammability 1 | Instability 0 | Special hazards - |
| HMIS | Health hazards 4 * | Flammability 1 | Physical hazards 0 | Personal protection X |
| <i>Chronic Hazard Star Legend</i> | | <i>* = Chronic Health Hazard</i> | | |

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

| | | | |
|---------|-----------------------------|------|----------------------------------|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | * | Skin designation |

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

TRC-F455050-10G - Flumethrin

Revision date 01-Aug-2023

U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 01-Aug-2023
Revision Note No information available.

Disclaimer

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

End of Safety Data Sheet