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Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 16 Jan 2025

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

Bifenthrin

1.1. Catalog No.:

691164

1.2. Relevant identified uses of the substance or mixture

Identified uses: Laboratory chemical
R&D

1.3. Uses advised against:

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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
· Classification according to Regulation (EC) No 1272/2008
GHS06 skull and crossbones
Acute Tox. 2 H300 Fatal if swallowed.
Acute Tox. 3 H331 Toxic if inhaled.
GHS08 health hazard
Carc. 2 H351 Suspected of causing cancer.
STOT RE 1 H372 Causes damage to the nervous system through prolonged or repeated exposure.
GHS09 environment
Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
GHS07
Skin Sens. 1B H317 May cause an allergic skin reaction.

2.2. Label elements

2.2.1. Pictogram

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2.2.2.

2.2 Label elements
· Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
· Hazard pictograms
GHS06 GHS08 GHS09
· Signal word Danger
· Hazard statements
H300 Fatal if swallowed.
H331 Toxic if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to the nervous system through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
· Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
2.3 Other hazards
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characterisation: Substances
· CAS No. Description
82657-04-3 Bifenthrin
· Identification number(s) None
· Index number: 607-699-00-7
· RTECS: GZ1227800

3.1.1. Formula

C23H22ClF3O2

3.1.2. Molecular Weight (g/mol)

422.88

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3.1.3. CAS-No.

82657-04-3

4. FIRST AID MEASURES

4.1 Description of first aid measures
· General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.
Remove breathing equipment only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· After inhalation:
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient in recovery position for transport.
Seek immediate medical advice.
· After skin contact: Immediately wash with water and soap and rinse thoroughly.
· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
· After swallowing:
Rinse mouth. Do not induce vomiting.
Call for a doctor immediately.
4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
· Suitable extinguishing agents: Use fire extinguishing methods suitable for surrounding conditions.
5.2 Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.
5.3 Advice for firefighters
· Protective equipment:
Mouth respiratory protective device.
Wear self-contained respiratory protective device.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Avoid formation of dust.
6.2 Environmental precautions:
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
6.3 Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Ensure good ventilation/extraction at the workplace.
Remove dust thoroughly.
Store in cool, dry place in tightly closed receptacles.
Open and handle receptacle with care.
· Information about fire - and explosion protection: Keep respiratory protective device available.
7.2 Conditions for safe storage, including any incompatibilities
· Storage:
· Requirements to be met by storerooms and receptacles:
Please refer to the manufacturers certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
· Information about storage in one common storage facility: Store away from foodstuffs.
· Further information about storage conditions: Keep container tightly sealed.
7.3 Specific end use(s) No further relevant information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
· Ingredients with limit values that require monitoring at the workplace: Not required.
· Additional information: Lists used were valid at the time of SDS preparation.
8.2 Exposure controls
· Personal protective equipment:
· General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
· Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
· Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374
Protective gloves
· Material of gloves Nitrile rubber, NBR
· Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· Eye protection:
Tightly sealed goggles

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
· General Information
· Appearance:
Form: Solid
Colour: Colourless
· Odour: Odourless
· Odour threshold: Not determined.
· pH-value: Not applicable.
· Change in condition

Melting point/freezing point: 68-70 °C
Initial boiling point and boiling range: Not determined.
· Flash point: 165 °C
· Flammability (solid, gas): Not determined.
· Ignition temperature: Not determined
· Decomposition temperature: Not determined.
· Auto-ignition temperature: Not determined.
· Explosive properties: Not determined.
· Explosion limits:
Lower: Not determined.
Upper: Not determined.
· Vapour pressure at 20 °C: 0.0000178 hPa
· Density at 20 °C: 1.26 g/cm³
· Relative density Not determined.
· Vapour density Not applicable.
· Evaporation rate Not applicable.
· Solubility in / Miscibility with Acetone, Chloroform, DCM, Diethy ether, Toluene
· water at 20 °C: <0.000001 g/l
· Partition coefficient: n-octanol/water: >6 logP
· Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.
9.2 Other information No further relevant information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under normal conditions.
No further relevant information available.
10.2 Chemical stability Stable under normal conditions.
· Thermal decomposition / conditions to be avoided:
Formation of toxic gases is possible during heating or in case of fire.
10.3 Possibility of hazardous reactions No dangerous reactions known.
10.4 Conditions to avoid Heat.
10.5 Incompatible materials: Strong oxidizing agents.
10.6 Hazardous decomposition products:
Formation of toxic gases is possible during heating or in case of fire.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
· Acute toxicity
Fatal if swallowed.
Toxic if inhaled.
· LD/LC50 values relevant for classification:
Oral LD50 54.5 mg/kg (rat)
Dermal LD50 >2,000 mg/kg (rabbit)
· Primary irritant effect:
· Skin corrosion/irritation Based on available data, the classification criteria are not met.
· Serious eye damage/irritation Based on available data, the classification criteria are not met.
· Respiratory or skin sensitisation
May cause an allergic skin reaction.
· CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
Carc. 2
· Germ cell mutagenicity Based on available data, the classification criteria are not met.
· Carcinogenicity
Suspected of causing cancer.
· Reproductive toxicity Based on available data, the classification criteria are not met.
· STOT-single exposure Based on available data, the classification criteria are not met.
· STOT-repeated exposure

Causes damage to the nervous system through prolonged or repeated exposure.
· Aspiration hazard Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
· Aquatic toxicity:
LC50/48 0.00016 mg/l (daphnia)
LC50/96 h 0.00015 mg/l (fish)
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
· Ecotoxicological effects:
· Remark: Very toxic for fish
· Additional ecological information:
· General notes:
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
12.5 Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
· Recommendation
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· European waste catalogue
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
· Uncleaned packaging:
· Recommendation: Dispose of in accordance with national regulations.

14. TRANSPORT INFORMATION

14.1 UN-Number
· ADR, IMDG, IATA UN3349
· ADR 3349 PYRETHROID PESTICIDE, SOLID, TOXIC
(Bifenthrin), ENVIRONMENTALLY HAZARDOUS
· IMDG, IATA PYRETHROID PESTICIDE, SOLID, TOXIC (Bifenthrin)
14.3 Transport hazard class(es)
· ADR
· Class 6.1 Toxic substances.
· Label 6.1
· IMDG, IATA
· Class 6.1 Toxic substances.
· Label 6.1

14.4 Packing group
· ADR, IMDG, IATA III
14.5 Environmental hazards: Environmentally hazardous substance, solid
· Special marking (ADR): Symbol (fish and tree)
14.6 Special precautions for user Warning: Toxic substances.
· Danger code (Kemler): 60
· EMS Number: F-A,S-A
· Stowage Category A
14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code Not applicable.
· Transport/Additional information:
· ADR
· Limited quantities (LQ) 5 kg
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
· Transport category 2
· Tunnel restriction code E
· UN "Model Regulation": UN 3349 PYRETHROID PESTICIDE, SOLID, TOXIC (BIFENTHRIN) , 6.1, I I I , ENVIRONMENTALLY HAZARDOUS

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· Directive 2012/18/EU
· Named dangerous substances - ANNEX I Substance is not listed.
· Seveso category
H2 ACUTE TOXIC
E1 Hazardous to the Aquatic Environment
· Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

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. For lab use only!