



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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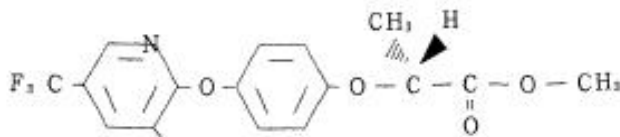
1. Chemical Product Identification

Product Name: Haloxyfop-R-methyl 95% TC

Molecular Formula: C₁₆H₁₃ClF₃NO₄

Molecular Weight: 375.5

Structural Formula:



Chemical Name: methyl (R)-2-{4-[3-chloro-5-(trifluoromethyl)-2-pyridyloxy]phenoxy}propanoate

Form: Homogeneous Liquid

Color: Sorrel

CAS No.: 72619-32-0

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Haloxyfop-R-methyl	72619-32-0	95
Other ingredients	---	5

3. Hazards Identification

Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This material and its container must be disposed of as hazardous



waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

4. First Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Flush eyes with water as a precaution.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire-Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides, nitrogen oxides (NO_x), Hydrogen chloride gas, Hydrogen fluoride

Advice for firefighters: Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.



8. Exposure Controls/Personal Protection

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9. Physical and Chemical Properties

Appearance: Sorrel homogeneous liquid

Water: $\leq 0.5\%$

pH value: 5.0~8.0

Boiling point: $> 280^{\circ}\text{C}$

Vapour pressure: 2.6×10^{-5} Pa at 20°C , 5.5×10^{-5} Pa at 25°C

Partition coefficient (octanol/water): $\log K_{ow}=4.0$ at 20°C

Solubility(20°C , mg/l): water-6.93 (pH=5), 7.86 (pH=7)

10. Stability and Reactivity

Incompatible materials: Strong oxidizing agents

Reactivity: no data available

Chemical stability: no data available

11. Toxicological Information

Acute oral LD50 (rat) : ≥ 300 a.i.mg/kg

Acute dermal LD50: > 2000 a.i.mg/kg for rats

Inhalation LC50 (4 h) for rats: no data available.

Skin irritation: Non irritation to skin (rabbits)

Eye irritation: Slight irritation to eyes (rabbits)

Skin Sensitization: No sensitisation



12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute LD50 is 1159 a.i.mg/kg.

Effect on fish: high toxicity to fish, acute 96 hour LC50 for Bluegill sunfish is 0.088 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 12.3 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for Navicula pelliculosa is 1.72 a.i.mg/L.

Effect on honeybees: low toxicity to honeybees, contact acute 48 hour LD50 is >100 a.i.µg/bee, oral acute 48 hour LD50 is >100 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is >672 a.i.mg/kg.

13. Disposal Considerations

Waste treatment methods: Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

14. Transport information

Not Applicable

15. Regulatory Information

Not Applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.