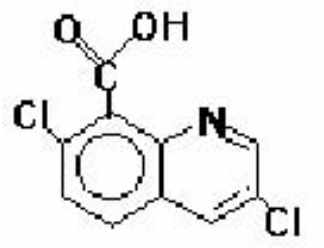
MATERIAL SAFETY DATA SHEET

1. Chemical Product Identification

Product Name: Quinclorac
Molecular Formula: $C_{10}H_5Cl_2NO2$
Molecular Weight: 242.1
Structural Formula:



Chemical Name: 3,7-dichloro-8-quinolinecarboxylic acid Form: Solid Color: slight yellow Odor: Mild CAS No.: 84087-01-4

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Quinclorac	84087-01-4	95.0
Other ingredients		5.0

3. Hazards Identification Caution: May be harmful if swallowed. Harmful if inhaled. Harmful in contact with skin. Cause skin irritation. May cause skin irritation. May cause allergic skin reaction.

4. First Aid Measures Avoid contact with the skin, eyes and clothing. Remove contaminated clothes, undergarments and shoes immediately. If difficulties occur: Obtain medical attention. Show container, label and safety data sheet to physician. If Inhaled: Remove the individual into fresh air and keep the person calm. Assist in breathing if necessary. Keep patient calm, remove to fresh air, seek medical attention. If On Skin: Rinse skin immediately with plenty of water for 15-20 minutes. Wash thoroughly with soap and water. If irritation develops, seek medical attention. If In Eyes: Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Hold eye open and rinse slowly and gently with for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. If swallowed: Rinse mouth immediately and then drink plenty of water, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Foam, dry extinguishing media, carbon dioxide, water spray.

Hazards During Fire-Fighting: Carbon monoxide, carbon dioxide, hydrochloric acid, nitrogen oxides. If product is heated above decomposition temperature, toxic vapors will be released. The substances of substances mentioned can be released if the product is involved in a fire.

6. Accidental Release Measures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

7. Handling And Storage

Only keep in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

8. Exposure Controls/Personal Protection

Hand Protection: Chemical resistant protective gloves, protective glove selection must be based on the user's assessment of the workplace hazards. Eye Protection: Safety glasses with side-shields. Tightly fitting safety goggles. Wear face shield if splashing hazard exists. Body Protection: Body protection must be chosen depending on activity and possible exposure.

9. Physical and Chemical Properties

PH: 3.2

Melting point : 274℃

Relative density: 1.75

Vapor pressure: <0.01mPa@20℃

Partition coefficient: KowlogP=-1.15@20℃,pH=7

Solubility in water: 64mg/l@20℃

10. Stability and Reactivity Stability: Stable. Incompatibility (Materials to Avoid): Do not mix with acidic materials, as this will ruin the product. Decomposition/By-Products: May produce gases such as HCl, nitrogen oxides, and carbon monoxide when burning. Hazardous Polymerization: Will not occur.

11. Toxicological Information

Acute Toxicity:
Oral: LD50(rat): 2680 mg/kg mouse LD50 >5000mg/kg.
Inhalation: LD50/rat: >5.2g/l/4h. No mortality was observed.
Dermal: LD50/rat: >2,000 mg/kg No mortality was observed.
Skin irritation (rabbit): non-irritant
Eye irritation (rabbit): non-irritant

12. Ecological and Ecotoxicological Information Environmental Hazards: This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. When cleaning equipment, do not pour the washwater on the ground; spray or drain over a large area away from wells and other water sources. Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites.

13. Disposal Considerations Waste disposal of substance: Pesticide wastes ate regulated. Improper disposal of excess pesticide of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative for guidance.

14. Transport Information

Class: 9 UN NO. :3082 Packing group: III

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.