



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

ADD: NO.52 PUCHANG ROAD, PUZHOU INDUSTRIAL PARK, LONGWAN DISTRICT,
WENZHOU ZHEJIANG P.R. CHINA

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

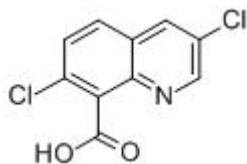
1. Chemical Product Identification

Common Name: Quinclorac 95% TC

Molecular Formula: C₁₀H₅Cl₂NO₂

Molecular Weight: 242.06

Structural Formula:



Chemical Name: 3,7-dichloroquinoline-8-carboxylic acid

Form: Powder

Color: Off-white powder

Odor: Mild odour

CAS No.: 84087-01-4

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Quinclorac	84087-01-4	95
Other ingredients	---	5

3. Hazards Identification

Precautionary statements:

Avoid breathing mist, vapors and spray. Use only outdoors or in a well-ventilated area. If inhaled: remove a person to fresh air and keep comfortable for breathing. Call a poison



center or a doctor if you feel unwell.

Wash hand thoroughly after handling. Wear protective gloves. If on skin: wash with plenty of water. If skin/irritation occurs: Get medical advice. Take off contaminated clothing and wash it before reuse.

4. First Aid Measures

General advice: First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled: Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin: Rinse skin immediately with plenty of water for 15 - 20 minutes. If irritation develops, seek medical attention.

If in eyes: Flush with copious amounts of water for at least 15 minutes. If irritation develops, seek medical attention.

If swallowed: Rinse mouth immediately and then drink plenty of water, induce vomiting, seek medical attention. Call a poison control center or physician for treatment advice.

Note to physician Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Suitable extinguishing media: foam, dry powder, carbon dioxide, water spray.

Hazards during fire-fighting: carbon monoxide, carbon dioxide, nitrogen dioxide, nitrogen oxide, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons, If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information: Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.



6. Accidental Release Measures

Personal precautions: 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. Environmental precautions: Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup: Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

7. Handling And Storage

Handling: Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Keep out of reach of children.

Storage: Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

8. Exposure Controls/Personal Protection

Respiratory protection: Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

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 (chemical goggles). Wear face shield if splashing hazard exists.



Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures: The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing.

Wearing of closed work clothing is recommended. Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing.

9. Physical and Chemical Properties

Appearance: Off-white powder

pH: 3.0-5.5

Water content: $\leq 1.0\%$

Melting point: 274°C

Bulk density: 1.75 g/ml

Partition Coefficient: $\log P = -1.15$ (at pH 7, 20°C)

Vapour pressure: 0.01 mPa (25°C)

Solubility: 0.065 mg/l in water (20°C); In organic solvents: 10 g/l in acetone, insoluble in methanol and xylene (all at 20°C).

10. Stability and Reactivity

Conditions to avoid: Avoid all sources of ignition: heat, sparks, open flame. Avoid prolonged storage. Avoid electro-static discharge. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

Substances to avoid: strong acids, strong bases, strong oxidizing agents.

Hazardous reactions: The product is chemically stable. Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

11. Toxicological Information

Acute oral LD50 for rats: 2680 a.i.mg/kg

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

Acute inhalation toxicity LC50 (4 h) for rats: >5.15 a.i.mg/L

Skin irritation: Non-irritating to skin (rabbits)

Eye irritation: Slightly irritating to eyes (rabbits)

Skin sensitization: Not a skin sensitizer (guinea pigs).



12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD50 for Mallard is 2000 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is 100 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 29.8 a.i.mg/l.

Effects on algae: Acute 72 hour EC50 for Scenedesmus acutus is 6.53 a.i.mg/l.

Effects on bees: contact acute 48 hour LD50 is 181 a.i.µg/bee.

13. Disposal Considerations

Waste disposal of substance: See product label for disposal and recycling instructions.

Container disposal: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/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.