



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

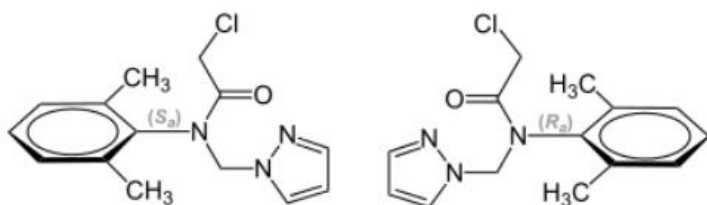
1. Chemical Product Identification

Common Name: Metazachlor 96% TC

Molecular Formula: C₁₄H₁₆ClN₃O

Molecular Weight: 277.75

Structural Formula:



Chemical Name: 2-chloro-*N*-(pyrazol-1-ylmethyl)acet-2',6'-xylidide

Color: Powder

Form: White to gray crystal

CAS No.: 67129-08-2

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Metazachlor	67129-08-2	96
Other ingredients	---	4

3. Hazards Identification

Likely routes of exposure: Skin and eye contact, ingestion, and inhalation.

Ingestion: May be harmful when swallowed.



Inhalation: May be harmful by inhalation. May cause irritation to respiratory tract.

Eye and Skin contact: May cause irritation to the skin and eyes.

4. First Aid Measures

Inhalation: Immediately remove source of contamination or move person to fresh air. If breathing has stopped, perform artificial respiration and if breathing is laboured administer oxygen. Keep person calm and at rest. Treat symptomatically and supportively as and when required. Seek medical advice.

Skin contact: Remove contaminated clothing, shoes and leather goods immediately. Wash skin gently and thoroughly with nonabrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Wash clothing before re-use. Thoroughly clean shoes before re-use. Seek medical advice if necessary.

Eye contact: Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If redness, itching or a burning sensation develops, have eyes examined and treated by medical personnel.

Ingestion: Provided the patient is conscious, wash out mouth with water. Vomiting should only be induced under the direction of a physician or a poison control centre. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Advice to physician: There is no specific antidote. Treat symptomatically and supportively.

5. Fire-Fighting Measures

Extinguishing agents: Extinguish fires with CO₂, dry chemical, halogenated agents, water fog and foam. Water spray can be used for cooling of unaffected stock. Burning liquids may be moved by flushing water to protect personnel and minimize property damage. Use as little water as possible. Use spray or fog. Solid stream may cause spreading.

Fire fighting: Remove spectators from surrounding area. Isolate the fire area and evacuate upwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dyke fire



control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment: Fire fighters should wear full protective fire-fighting clothing including positive-pressure self-contained breathing apparatus (SCBA). Avoid contact with this material during fire-fighting operations.

6. Accidental Release Measures

Personal precautions: Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.

Environmental precautions: Metazachlor is slightly to moderately toxic to fish and other aquatic organisms. It is regarded as an environmentally hazardous substance. Do not allow entering into drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill: Keep out unprotected persons and animals. Do not touch spilled material; stop leak if you can do it without risk. Earth all equipment used when handling the product. Do not touch or walk through spilled material. Stop leak if possible without risk. Avoid runoff of product into sewers, water systems, basements or confined areas as it may cause fire/explosion. A vapour-suppressing foam could be used to reduce vapours. Thoroughly wash body areas, which come into contact with the product.

For spills: Use clean, non-sparking tools to collect absorbed material. Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

7. Handling And Storage

Handling: Avoid inhalation and contact with eyes and skin, or clothing. Use with adequate ventilation. Do not handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove personal protective equipment immediately after handling this product. Do not apply directly to areas



where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage: Keep under lock and key and out of reach of children, uninformed persons and animals. Store in its original container in a dry, cool, wellventilated area. Not to be stored close to food, feedstuffs, water supplies, seed and fertilisers.

8. Exposure Controls/Personal Protection

PERSONAL PROTECTIVE EQUIPMENT: Only spark-resistant equipment should be used. Comply with occupational safety, environmental, fire and other applicable regulations.

Respirator: If vapour exposures causes eye discomfort, an approved full-face respirator suitable for protection from spray or mists of pesticides is required. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing. Contaminated leather items, such as shoes, belts and watchbands should be disposed of.

Gloves: Employee must wear appropriate chemical resistant protective gloves (PVC or neoprene gloves) to prevent contact with this substance.

Eye protection: The use of chemical resistant goggles or face shield.

Emergency eye-wash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. Physical and Chemical Properties

Appearance: White to gray crystal powder

pH: 5.0-7.0

Moisture conten: $\leq 0.5\%$.

Acidity (calculated as H₂SO₄): $\leq 0.5\%$

Insolubles in acetone: $\leq 0.5\%$

Melting point: 80°C

Bulk density: 1.31 g/ml

Partition Coefficient: log P = 2.49 (at pH 7, 20°C)

Vapour pressure: 0.093 mPa (25°C)



Solubility: 450 mg/l in water (20°C); In organic solvents: 5 g/l in hexane, 250 g/l in acetone, 265 g/l in toluene, 250 g/l in dichloromethane (all at 20°C).

10. Stability and Reactivity

Stability: Stable for up to 2 years under normal warehouse conditions.

Incompatibility: Incompatible with strong oxidizing agents.

11. Toxicological Information

Acute oral LD50 for rat: 3480 a.i.mg/kg

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

Inhalation LC50 (4 h) for rat: 34.5 a.i.mg/L.

Skin irritation: Non-irritating to skin (rabbits).

Eye irritation: Minimally to slightly-irritating to eyes (rabbits).

Skin sensitization: Strong sensitise (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD50 for Bobwhite quail is 2000 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 8.5 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 33 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for Pseudokirchneriella subcapitata is 0.0162 a.i.mg/L.

Effect on honeybees: low-moderate toxicity to honeybees, contact acute 48 hour LD50 is >100 a.i.µg/bee, oral acute 48 hour LD50 is 72.2 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is 500 a.i.mg/kg.

13. Disposal Considerations

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging: 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.