



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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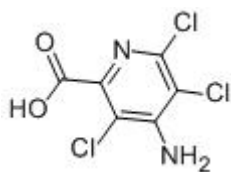
1. Chemical Product Identification

Common Name: Picloram 92% TC

Molecular Formula: $C_6H_3Cl_3N_2O_2$

Molecular Weight: 241.46

Structural Formula:



Chemical Name: 4-amino-3,5,6-trichloropyridine-2-carboxylic acid

Form: Powder

Color: White to light yellow

CAS No.: 1918-02-1

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Picloram	1918-02-1	92
Other ingredients	---	8

3. Hazards Identification

Likely routes of exposure: Harmful to aquatic organisms.

Skin: May cause sensitisation by skin contact.

Eyes: Avoid contact with eyes since concentration may cause severe eye irritation.



Ingestion: Poisonous when swallowed.

Inhalation: Mist may cause irritation of upper respiratory tract and lungs.

4. First Aid Measures

Inhalation: Remove source of contamination, or move victim to fresh air. Keep affected person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately if effects persist.

Skin contact: Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with cold water and non-abrasive soap. Do not rub the skin. If irritation persists, obtain medical attention.

Eye contact: Immediately flush the eyes with clean, gently flowing cold water for 20 minutes, holding the eyelid(s) open. If irritation persists, obtain medical attention.

Ingestion: Have victim rinse mouth thoroughly with water. Do not induce vomiting. If the person is alert, give 3 to 4 glasses of water or milk to drink. Do not give anything to drink to an unconscious or convulsing person. If vomiting does occur, give fluids again. Seek medical advice immediately, showing container and label.

Advice to physician: There is no specific antidote. Treat symptomatically and supportively as and when required. Gastric lavage could be contraindicated due to probable mucosal damage.

5. Fire-Fighting Measures

Extinguishing agents: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal.

Fire fighting: Remove spectators from surrounding area. Remove container from fire area if possible. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Personal protective equipment: Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.



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: Do not allow entering 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. To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited.

7. Handling And Storage

Handling: Operator should not be alone during handling and application of product. Remove sources of naked flame or sparks. Toxic if swallowed and by skin contact, and harmful if inhaled. Avoid contact with eyes and skin and inhalation of fumes. Avoid exposure to spray. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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: Store in its original container in isolated, dry, cool and well-ventilated area. Avoid cross contamination with other pesticides and fertilisers. Keep under lock and key out of reach of unauthorised persons, children and animals. Store away from incompatible substances. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with. Keep away from naked flames and other sources of ignition.

8. Exposure Controls/Personal Protection

PERSONAL PROTECTIVE EQUIPMENT: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator: It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection: Wear safety 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 light yellow powder

Water content: $\leq 1.0\%$

Insoluble in acetone: $\leq 1.0\%$

Melting point: 174°C

Boiling point: Decomposes before boiling

Bulk density: 1.81 g/ml

Partition Coefficient: $\log P = -1.92$ (at pH 7, 20°C)

Vapour pressure: 8×10^{-5} mPa (25°C)



Solubility: 560 mg/l in water (20°C); In organic solvents: 23.9 g/l in acetone, 19.1 g/l in methanol, 0.01 g/l in n-heptane, 0.105 g/l in xylene (all at 20°C).

10. Stability and Reactivity

Storage stability: Stable for up to 2 years under normal warehouse and field conditions. Avoid contact with strong acids, strong alkalis and alkaline materials such as lime. Avoid heat and sources of ignition.

Hazardous decomposition: Product undergoes decomposition at high temperatures and will cause toxic fumes.

11. Toxicological Information

Acute oral LD50 for rats: 4012 a.i.mg/kg

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

Acute inhalation toxicity LC50 (4 h) for rats: >0.035 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 >1944 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is 8.8 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 44.2 a.i.mg/l.

Effects on algae: Acute 72 hour EC50 for Pseudokirchneriella subcapitata is 60.2 a.i.mg/l.

Effects on bees: contact acute 48 hour LD50 is >100 a.i.µg/bee, oral acute 48 hour LD50 is >74 a.i.µg/bee.

Effects on earthworms: Acute 14 day LC50 is >4475 a.i.mg/kg.

13. Disposal Considerations

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems.



Comply with local legislation applying to waste disposal.

Package product wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards. TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container. Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose. Comply with any local legislation applying to disposal.

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.