



Hangzhou Tianlong Biotechnology Co., Ltd.

Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATA SHEET

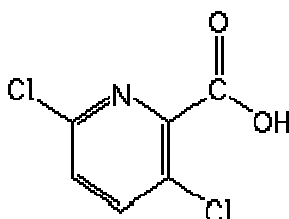
1. Chemical Product and company Identification

Product Name: Clopyralid

Molecular Formula: $C_6H_3Cl_2NO_2$

Molecular Weight: 192.0

Structural Formula:



Chemical Name: 3,6-dichloro-2-pyridinecarboxylic acid

CAS No.: 1702-17-6

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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2. Composition / Information on Ingredients

| Composition | CAS No. | Content % |
|-------------------|-----------|-----------|
| Clopyralid | 1702-17-6 | 97.0 |
| Other ingredients | | 3.0 |

3. Hazards Identification

Emergency overview: Caution. Causes eye injury. Harmful if inhaled or absorbed through skin.

Route of entry: Inhalation, ingestion, contact with eye and skin.

Health hazards:

Inhalation: Harmful if inhalation.

Eye: Irritating to eyes.

Skin: Harmful if absorbed through skin.

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air and keep at rest. Obtain medical advice. If breathing stops or shows signs of failing, start artificial respiration. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Skin contact: Immediately remove contaminated clothing. Wash affected

areas with soap and water. Seek medical aid. If advised by doctor or Poisons Information Centre, atropine tablets may be administered.

Eye contact: Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.

Ingestion: Wash out mouth with water. Do not induce vomiting. Give a glass of water. Keep patient at rest and seek medical advice immediately, as above. Transport patient tablets may be administered.

5. Fire-Fighting Measures

Hazardous combustion products: Likely to decompose by strong heating.

Extinguishing media: Extinguish fire with foam and water spray.

Fire-fighting instructions: Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

Protective equipment for fire fighters: When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and self contained breathing apparatus. All skin areas should be covered.

6. Accidental Release Measures

Personal precautions: Wear suitable protective clothing and eye protection to prevent skin and eye contact.

Method for cleaning up: Absorb small spills with materials such as sand, sawdust, or dirt and shovel into an open drum. Wash exposed body areas thoroughly after handling.

7. Handling and Storage

Handling: Read the label before use. May irritate eyes. Avoid contact with eyes. Wash hands after use. When using the prepared spray, wear elbow length PVC gloves and face shield or goggles. After each day's use, wash gloves and face shield or goggles.

Storage: Store in tightly closed original container in a dry, cool, well-ventilated area, out of direct sunlight. Do not store near food, feedstuffs, fertilizers or seed.

8. Exposure Controls/Personal Protection

Personal Protective Equipment:

To avoid eye and skin contact, wearing the following personal protective clothing and equipment is recommended:

Eyes: Safety goggles or face shield

Clothing: Cotton overalls buttoned to the neck and wrist and a washable hat.

Gloves: Elbow length PVC gloves.

Respiratory: Respiratory protection is not normally required. If airborne concentrations are likely to exceed the exposure standard above, an AS/NZS 1715/1716 approved respirator should be worn.

Other: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves, goggles or face shield and contaminated clothing.

9. Physical and Chemical Properties

Appearance: Colourless crystals

Melting point: 151-152 °C.

Degradation point: 164°C

Vapor pressure: 1.33 mPa (pure, 24 °C); 1.36 mPa (tech., 25 °C)

Solubility: Soluble in Xylene, acetone, methanol, ethanol, ethers and dichloromethane by >50%, glycol by 3%.

10. Stability and Reactivity

Chemical stability: Stable under normal conditions.

Conditions to avoid: Do not store in exceptionally hot conditions.

Hazardous decompositions products: Combustion or thermal decomposition with evolve toxic and irritant vapours. Carbon dioxide, perhaps monoxide. Nitrogen oxides and chlorine compounds.

Hazardous polymerization: Will not occur.

Incompatible materials: No particular incompatibilities.

11. Toxicological Information

Acute toxicity:

Oral (male rat) LD₅₀: 3738mg/kg

Oral (female rat) LD₅₀: 2675mg/kg

Dermal (rabbit) LD₅₀: >2000mg/kg

Inhalation (rat) LC₅₀: >0.38mg/l

SKIN: No irritant.

EYES: Irritant.

Allergenic and sensitizing effects:

Not considered to be a skin sensitizer (guinea pig)

Chronic toxicity/carcinogenicity: Chronic studies of laboratory animals have identified effects on the stomach, liver, blood, and body weight. A two-year study with rats found hyperplasia of the stomach lining, an increase in the number of cells leading to an enlargement of the lining, at all but the lowest dose tested. A one-year study with dogs found an increase in liver weights and a decrease in the number of red blood cells, also at all but the lowest dose tested. A two-year study with mice found decreased weight of males at the highest dose tested.

12. Ecological Information

ECOLOGICAL DATA

Birds: Acute oral (mallard ducks) LD₅₀: 1465mg/kg

Acute oral (bobwhite quail) LD₅₀: >2000mg/kg

Dietary LC₅₀ (5days): for mallard ducks and bobwhite quail > 4640mg/kg diet.

Fish: LC₅₀ (96h): for rainbow trout 103.5, bluegill sunfish 125.4mg/l

Daphnia: EC₅₀ (48h): 225mg/l

Algae: EC₅₀ (96h): for selenastrum capricornutum, cell count 6.9, cell

volume 7.3mg/l.

Bees: Non-toxic to bees.

LD₅₀ (oral): >100ug/bee

LD₅₀ (contact): >100ug/bee

Earthworm: LC₅₀ (14 days): >1000mg/kg soil

13. Disposal Considerations

Do not dispose of undiluted chemicals on site. Shred and bury empty containers in a local authority landfill. If no landfill is available, bury the packaging below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty packaging and product should not be burnt.

14. Transport Information

Class: 9

UN NO. : 3077

Packing Group: III

15. Regulatory Information

Risk Phrase(s):

R41: Risk of serious damage to eyes.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S30: Never add water to this product.

S39: Wear eye/face protection

S61: Avoid release to the environment.

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.