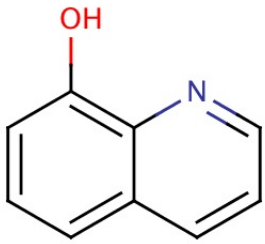
Hangzhou Tianlong Biotechnology Co., Ltd.
Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATA SHEET

1. Chemical Product and company Identification

Product Name: 8-Hydroxyquinoline
Molecular Formula: C_9H_7NO
Molecular Weight: 145.17
Structural Formula:



Chemical Name: Quinolin-8-ol
CAS No.: 148-24-3
Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD
Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020
Tel: 0086-571-87214516
Fax: 0086-571-87079476

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
8-Hydroxyquinoline	148-24-3	99.0
Other ingredients		1.0

3. Hazards Summarizing

Routes of exposure:

Inhalation, ingestion

Potential Acute Health Effects:

Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant).

Potential Chronic Health Effects:

Carcinogenic effects: 3 (Not classifiable for human) by IARC. Mutagenic effects: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. Teratogenic effects: Not available. Developmental toxicity: Not available. The substance may be toxic to central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

4. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire-Fighting Measures

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes.

Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in presence of an ignition source, is a potential dust explosion hazard.

6. Accidental Release Measures

Personal cautions: safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants and hats.

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. Handling and Storage

Precautions:

Keep locked up. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Sensitive to light. Store in light-resistant containers.

8. Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

9. Physical and Chemical Properties

Form: crystalline powder

Color: White to off white

Melting point: 72-74℃

Boiling point: 267 ºC

Specific gravity: 1.04 (Water = 1)

Stability: Acetic acid, ethanol, acetone, chloroform, benzene and aqueous mineral acids

Vapor Pressure: Not applicable

10. Stability and Reactivity

Stability: Acetic acid, ethanol, acetone, chloroform, benzene and aqueous mineral acids

Chemical Stability: Darkens and decomposes on exposure to light. Light sensitive.

Conditions to Avoid: Incompatible materials, light, dust generation, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen gas.

Hazardous Polymerization: Has not been reported

11. Toxicological Information

Toxicity to Animals:

Warning: the LC_{50} values hereunder are estimated on the basis of a 4-hour exposure. Acute oral toxicity (LD_{50}): 1200 mg/kg [Rat]. Acute toxicity of the dust (LC_{50}): >1210 mg/m3 6 hours [Rat].

Chronic Effects on Humans:

Carcinogenic effects: 2 (not classifiable for human) by IARC. Mutagenic effects: mutagenic for mammalian somatic cells, mutagenic for bacteria and/or yeast. May causes damage to the following organs: central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenic). May cause cancer based on animal data. No human data found.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. Inhalation: May be harmful if inhaled. Causes respiratory tract and mucous membrane irritation. Symptoms may include coughing, labored breathing, and chest pain. Other effects may parallel those of ingestion. Ingestion: May harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting and diarrhea. Ingestion of large oral doses may affect behavior/central nervous system (confusion, paralysis), respiration (breathing difficulty), metabolism (anorexia - weight loss or decreased weight gain), and may cause

malaise. Chronic Potential Health Effects: Ingestion: Repeated or prolonged ingestion will also have effects similar to those of acute ingestion.

12. Ecological Information

Ecotoxicity: not available.

Product of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation:

The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

13. Disposal Considerations

Methods of disposal:

After use: Triple rinse empty container with water and empty contents into spray tank. Destroy the empty container by puncturing and crushing. Dispose of destroyed container by taking to an approved council disposal site or alternatively bury under at least 50cm of soil in a location away from houses, crops, water supply, and ground water.

14. Transport Information

Class: 6.1

UN No: UN 2811

Packaging Group III

15. Regulatory Information

Safety Phrases: Keep out of reach of children

Keep away from food, drink and animal feeding stuff

Do not breathe spray

When using do not eat, drink or smoke

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

In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible)

Use appropriate containment to avoid environmental contamination

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.