



**Hangzhou Tianlong Biotechnology Co., Ltd.**

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

## MATERIAL SAFETY DATA SHEET

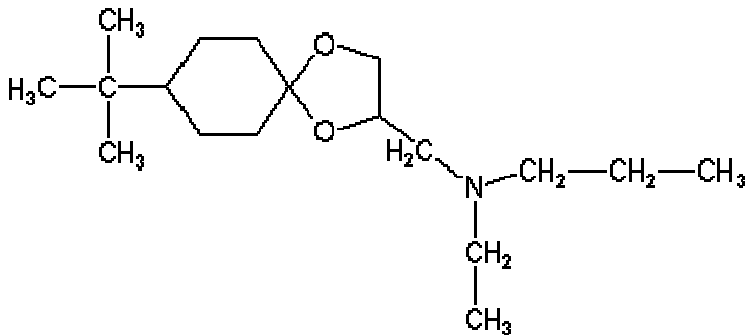
### 1. Chemical Product and company Identification

Product Name: Spiroxamine

Molecular Formula: C<sub>18</sub>H<sub>35</sub>NO<sub>2</sub>

Molecular Weight: 297.5

Molecular Structure:



Chemical Name: IUPAC: 8-tert-butyl-1,4-dioxaspiro[4.5]decan-2-ylmethyl(ethyl)(propyl)amine

CAS: 8-(1,1-dimethylethyl)-N-ethyl-N-propyl-1,4-dioxaspiro[4.5]decane-2-methanamine

CAS No.: 118134-30-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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### 2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Spiroxamine	118134-30-8	97.0
Other ingredients		3.0

### 3. Hazards Summarizing

Emergency overview: Risk! May cause Sensitization by skin contact. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

Potential Health Effects:

Acute health effects:

Swallowed: Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

Eye: This material can cause eye irritation and damage in some persons.

Skin: Skin contact with the material may be harmful; systemic effects may result following absorption. This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. Spiroxamine applied to the inside forearm of human volunteers for 8 hours, resulted in negligible plasma levels and a slow, prolonged excretion in the urine over a period of 41 days during which time 18.4% of the applied material was recovered from the urine. Excretion in the faeces was negligible.

Inhaled: Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful. The material is not thought to produce respiratory irritation (as classified using animal models). Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

Chronic health effects:

Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

#### **4. First Aid Measures**

Eye Contact: If this product comes in contact with the eyes: Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

Skin Contact: If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available).

Inhalation: If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested.

Ingestion: If swallowed, refer for medical attention, where possible, without delay. Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise.

#### **5. Fire-Fighting Measures**

Extinguishing Media: Dry chemical powder, foam

Fire Fighting: Alert Emergency Responders and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

General fire hazards/hazardous combustible products:

Combustible solid which burns but propagates flame with difficulty. Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited. Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), other pyrolysis products typical of burning organic material. May emit poisonous fumes

Personal protection: Goggles, chemical goggles, gloves, respirator, particulate.

## **6. Accidental Release Measures**

Minor spills:

Clean up waste regularly and abnormal spills immediately.

- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.
- Vacuum up or sweep up. NOTE: Vacuum cleaner must be fitted with an exhaust micro filter (HEPA type) (consider explosion-proof machines designed to be grounded during storage and use).
- Dampen with water to prevent dusting before sweeping.
- Place in suitable containers for disposal.

Major spills:

- Clear area of personnel and move upwind.
- Alert Emergency Responders and tell them location and nature of hazard.

## **7. Handling and Storage**

Handling: Read the label before use. Keep out of reach of children. Harmful if swallowed. Causes skin irritation and sensitivity. Avoid contact with skin and clothing. After work, remove protective clothing and equipment, wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Clean up spilled material immediately, and wash clothes, equipment and work area after use.

Storage: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. This product can be stored in an unheated building. Do not store with food, feed stuffs, fertilizers and seeds.

## **8. Exposure Controls/Personal Protection**

Engineering controls: Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction. Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

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: white crystalline powder

Specific gravity (water=1): 0.930

Melting Point:  $<-274^{\circ}\text{F}$ .

Boiling point: Not available

Vapour Pressure (mmHg):  $12.751 \times 10^{-5}$

Solubility in water: Partly miscible

## **10. Stability and Reactivity**

Stability: Stable.

Storage incompatibility: Avoid reaction with oxidizing agents.

Conditions contributing to instability:

- Presence of incompatible materials.
- Product is considered stable.

## **11. Toxicological Information**

Acute toxicity:

Oral (rat) LD<sub>50</sub>: 245mg/kg

Inhalation (rat) LC<sub>50</sub>: 330mg/kg/4h

Dermal (rat) LD<sub>50</sub>:  $>2000\text{mg/kg}$

Oral (mouse) LD<sub>50</sub>: 440mg/kg

Eye: Severe irritation.

## **12. Ecological Information**

Very toxic to aquatic organisms may cause long-term adverse effects in

the aquatic environment. This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

### **13. Disposal Considerations**

If material cannot be returned to process or salvage, dispose of in accordance with applicable regulations.

### **14. Transport Information**

Class: 6.1

UN No: 2588

Packaging Group II

### **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.