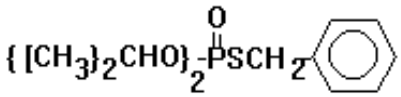
Hangzhou Tianlong Biotechnology Co., Ltd.
Add: Room 1906, Fengqi Times Tower, No.338, Fengqi East Road, Hangzhou, Zhejiang, China.

MATERIAL SAFETY DATA SHEET

1. Chemical Product and company Identification

Product Name: Iprobenfos
Molecular Formula: $C_{13}H_{21}O_3PS$
Molecular Weight: 288.34
Structural Formula:



Chemical Name: *S*-Benzyl O, O-diisopropyl phosphorothioate
CAS No.: 26087-47-8
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 %
Iprobenfos	26087-47-8	95.0
Other ingredients		5.0

3. Hazards Identification

Adverse Human Health Effects: Effect of over exposure: We have never faced the poisoning problem attributed to iprobenfos technical on laboratory researchers, factory workers and users, however, over-exposure experiments on animals showed that the administration of an extra-ordinary large quantity of iprobenfos technical may cause hypoactivity, abnormal walking and prostration.

4. First Aid Measures

Skin Contact: Take off contaminated clothing and shoes immediately. Wash material off the skin in flowing water or shower with soap. If irritation persists, get a medical attention immediately.
Eye Contact: Immediately flush with copious amount of water for at least 15 minutes. If irritation persists, get a medical attention immediately.

Inhalation: Remove the victim to fresh air and keep him warm and quiet. Get a medical attention immediately. If not breathing, clear the airway and give artificial respiration. If breathing is difficult, give oxygen.
Ingestion: If the victim is unconscious, remove from contamination and get a medical attention immediately. If not breathing, clear the airway and give artifical repiration. Rinse mouse with water completely. If the victim is conscious, try to get him vomiting by using finger or spoon ladle. If this does not help, give him a glass or two of salt water or vomiting syrup and try again.

5. Fire-Fighting Measures

Extinguishing Media: Dry chemical powder, foam, carbon dioxide or dry sand.
Special Fire Fighting Procedure: For small fires, use dry chemical powder, carbon dioxide or dry sand. For big fires, foam extinguisher is effective to shut off air. Water may enlarge fire. Water spray may be effective for cooling down but do not use water for extinguishing. Fire fighters should wear protective gears including a positive pressure self-contained breathing apparatus as toxic gases (carbon monoxide, etc.) will form upon combustion. Evacuate non essential personnel.

6. Accidental Release Measures

Evacuate non essential personnel by roping an area of leak or spill. Evacuate people to upwind of the spilled area. Remove all sources of ignition; No flares, smoking, or flames in the area immediately. Wear protective gears and never work downwind. Spilled area should be fully ventilated until all revoming procedures are completed. Prevent spills from entering sewers, watercourses or low areas so as not to contaminate the environment.
For small spills: Adsorb with inert materials (e.g. dry sand or earth), then place in a waste chemical container for disposal. Flush residual spill (area) with a plenty of water.
For large spills: Dike with sand to lead spill to safe place and then cover with foam. Place in a waste chemical container as much as possible. Flush residual spill (area) with a plenty of water.

7. Handling And Storage

Handling: Keep out of reach of children
Wear appropriate protective gears to avoid breathing vapour and contact with skin, eyes or clothing. Handle the product upwind. Keep containers tightly closed or the use of local exhaust is recommended. Shut off all gas pilot and electrical (spark or hot wire) igniters and other sources of ignition during use and until all vapors (odors) are gone. Wear the clothing and boots that prevent build-up of electrostatic charges. Avoid rough handling or dropping. Keep away from oxidizing and alkaline materials.

Storage: All the electrical appliances used in storage should be installed directly to the ground. The appliances must be explosion-proof. Keep containers tightly closed and store in a cool, dark and dry place. Keep away from heat, steam pipe or combustible materials.

8. Exposure Controls/Personal Protection

Control Parameters: Not data available

Engineering Controls: The use of local exhaust ventilations is recommended. Containers should be kept tightly closed. Emergency shower and eye wash in the work area is recommended to be installed.

Personal Protective Equipment: Wear chemical cartridge respirator with an organic vapour cartridge, airline respirator, positive pressure self-contained breathing apparatus, safety goggles, gloves and boots as appropriate.

9. Physical and Chemical Properties

Appearance: Colourless to pale yellow clear liquid with faint odour
Density: 1.103/20°C
Boiling Point: 126°C /5.3Pa
Melting Point: 22.5-23.8°C
Vapour Pressure: 0.3mPa(20°C)
Solubility in Water: Slightly soluble in water
Solubility in Organic Soluvents: Soluble Log P (o/w) 1,630

10. Stability and Reactivity

Flash Point: 34.5°C
Freezing Point: Not available. Stable in -20°Cx 7 days
Explosion Limit: No data available
Stability and Reactivity: Stable under normal conditions
Hazardous Polymerization: Not known
Incompatibility: Strong acid and alkali
Storage Stability: Stable for 3 years if stored in a cool, dark and dry place.

11. Toxicological Information

Acute Toxicity:
Oral: LD50 (Rat) 790 mg/kg (male), 680mg/kg(female) (Mouse) 1830 mg/kg (male), 1760mg/kg(female)
Inhalation: LD50 (Rat) 1.12 mg/kg (male), 0.34mg/kg(female)
Dermal: LD50 (Rat) >2,000 mg/kg (male & female)
Irritant Properties:
Eye irritation: (Rabbit) No irritation (20 times dilute solution)
Skin irritation: (Rabbit) No irritation (10% concentration of technical)

12. Ecological Information

Birds Toxicity(technical): Hen(male) Oral LD_{50} 705 mg/kg
Fish Toxicity(48%EC): Carp TLm (48 hrs) 9.2 ppm

Daphnia magna LC_{50} (48 hrs) Not available
Beneficial Insect: Honeybees Topical LD_{50} Not available

13. Disposal Considerations

Waste should be disposed of in a chemical incinerator equipped with afterburner and scrubber little by little. The water containing the product should be drained after being cleaned up by activated sludge.

14. Transport Information

Class: 6.1

UN No.: 3018

Packing 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.