



Hangzhou Tianlong Biotechnology Co., Ltd.

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

MATERIAL SAFETY DATA SHEET

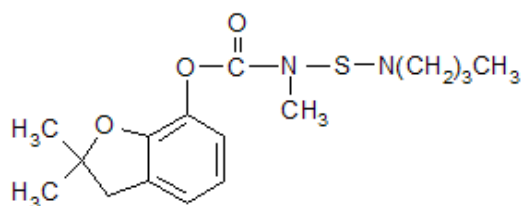
1. Chemical Product and company Identification

Product Name: Carbosulfan

Molecular Formula: C₂₀H₃₂N₂O₃S

Molecular Weight: 380.5

Structural Formula:



Chemical Name: 2,3-dihydro-2,2-dimethyl-7-benzofuranyl[(dibutylamino)thio]methylcarbamate

CAS No.: 55285-14-8

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

Address: Room 1906, Fengqi Times Tower, No.338 Fengqi East Road, Hangzhou, China, 310020

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2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Carbosulfan	55285-14-8	95.0
Other ingredients		5.0

3. Hazards Identification

Toxic by inhalation and if swallowed. May cause sensitization by skin contact.

Harmful: may cause lung damage if swallowed.

4. First Aid Measures

Inhalation: Remove victim from exposure - avoid becoming a casualty.

If symptoms develop or persist, seek medical advice.

Ingestion: Seek medical advice immediately. Give a glass of water.

If product has been swallowed and symptoms are evident and medical assistance is not immediately available, give one atropine tablet (0.6 mg) ev-

ery five minutes until recovery of the mouth occurs. Preferably, carry out treatment under the direction of medical advice obtained by phone.

Skin: Remove contaminated clothing and launder before re-use. Any skin contaminated with the concentrate must be thoroughly washed with soap and water.

Eye: If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice immediately.

First Aid Facilities: If poisoning occurs, contact a doctor or Poisons Information Centre. If this product is regularly used, it may be wise to keep a supply of atropine tablets (0.6 mg) (check State Regulations).

5. Fire-Fighting Measures

Extinguishing Media: Water fog, foam, carbon dioxide or dry chemical.

Specific Hazards: Overheated containers may rupture due to product decomposition under fire conditions.

Hazardous Combustion Products: If involved in a fire, it will emit oxides of nitrogen, carbon and sulfur and possibly methyl isocyanate.

Protective Equipment: Suitable air apparatus should be worn when fighting a fire in which Marshal is involved.

6. Accidental Release Measures

Spills & Disposal: Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite). Recover the product by sweeping up or vacuuming without raising dust. Collect spilled material and waste in sealable open-top type containers for disposal.

7. Handling And Storage

Store in the closed, original container in a cool, well ventilated area.

Do not store for prolonged periods in direct sunlight. Store in a locked enclosure. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

8. Exposure Controls/Personal Protection

Exposure Limits: No exposure standards have been set for this product or the active ingredients. The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 17ppm TWA, as total hydrocarbon. The manufacturer recommends a TWA of 0.1 mg/m³ for carbosulfan based on a TWA of 0.1 mg/m³ for a closely related material of similar properties and toxicities.

Eye Protection: Wear a faceshield or goggles.

Personal Protective Equipment: When opening the container and preparing the spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and face shield or goggles. When using the prepared spray wear cotton overalls buttoned to the neck and wrist and

a washable hat, elbow-length PVC gloves.

Eng. Controls: ~~be~~ with local exhaust ventilation or while wearing appropriate respirator.

9. Physical and Chemical Properties

Form: Liquid

Color: Viscous brown

Odor: Aromatic hydrocarbon odor

Boiling point: 124-128°C

Solubility: 0.03mg/l in water, miscible in acetone, dichloromethane, alcohol, xylene

Vapor pressure: 0.041mPa at 33°C

10. Stability and Reactivity

Carbosulfan (solid) has the potential for self-heating thermal decomposition above 100°C. Above 200°C decomposition will result in rapid gas generation forming carbon dioxide and carbonyl sulfide. Hydrolyses in contact with aqueous acid to form carbofuran.

11. Toxicological Information

Acute Toxicity:

Oral: LD₅₀ (rat) 185 mg/kg for carbosulfan.

Dermal: LD₅₀ (rat) >2000 mg/kg for carbosulfan

Inhalation: LC₅₀ (rat) (1hr) 0.61 mg/l for carbosulfan

Eye Irritation: Mild eye irritant.

Skin Irritation: Mild to moderate skin irritant.

Skin Sensitisation: Carbosulfan is a skin sensitiser.

12. Ecological Information

Known Harmful Effects on the Environment: Carbosulfan is very toxic to aquatic organisms and birds.

Other Precautions: Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

Environ. Protection: Severe marine pollutant.

Persistence /Degradability: Average field half life of carbosulfan is 50 days.

Acute Toxicity – Fish: Toxic to fish. LC₅₀ (96hr) for carbosulfan to rainbow trout is 0.042 mg/l.

Acute Toxicity:

Daphnia: LC₅₀ (48 hr) for daphnia is 0.015 mg/l.

Organisms: Birds: Toxic to birds. LD₅₀ for mallard ducks is 10 mg/kg

Bees: Toxic to bees. LD₅₀ 1.046 µg/bee.

13. Disposal Considerations

Product Disposal: On site disposal of the concentrated product is not acceptable.

Container Disposal: Do not use this container for any other purpose.

Returnable containers: empty contents fully into application equipment. Re-

place cap, close all valves and return to the point of supply for refill or storage.

14. Transport Information

Class: 6.1

UN No.: 2810

Packing group: III

15. Regulatory Information

Safe phrase: Keep locked up and out of reach children.

Keep away from food, drink and animal feeding stuffs.

Do not breathe vapour/spray.

Avoid contact with skin and eyes.

Wear suitable protective clothing, gloves and eye/face protection.

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 recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.