



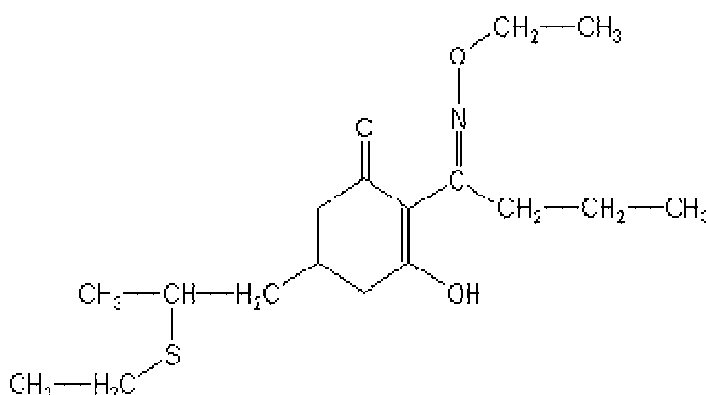
Hangzhou Tianlong Biotechnology Co., Ltd.

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: Sethoxydim
Molecular Formula: C₁₇H₂₉NO₃S
Molecular Weight: 327.50
Structural Formula:



Chemical Name:
2-[1-(ethoxyimino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one
CAS No.: 74051-80-2
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 %
Sethoxydim	74051-80-2	95.0
Other ingredients		5.0

3. Hazards Identification

Route of entry: Inhalation, absorption skinning contact.
Harmful by inhalation. Irritating to eyes.
Harmful: May cause lung damage if swallowed.

4. First Aid Measures

Inhalation: If inhaled, remove to fresh air and keep at rest. Obtain medical advice if at all worried.

Skin Contact: Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.

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 as above. Do not attempt to give anything by mouth to a semiconscious or unconscious person.

5. Fire-Fighting Measures

Extinguishing media: Dry chemical, carbon dioxide, alcohol foam or water spray.

Hazards from combustion products: Toxic decomposition products may be produced in a fire. These include sulphur dioxide, nitrogen oxides and carbon monoxide.

6. Accidental Release Measures

Avoid contact with the spilled material or contaminated surfaces. Extinguish or remove all possible sources of ignition. When dealing with spills do not eat, drink or smoke and wear protective clothing and equipment as described in Section 8—Personal Protection. Keep people and animals away. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, loosely sealed drums for safe disposal. Thoroughly ventilate the area after cleanup. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

7. Handling and Storage

Handling: Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapor. Do not smoke while handling. 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, face shield or goggles and contaminated clothing.

Storage: Store in the closed, original container in a cool, well ventilated, secure area. Do not store for prolonged periods in direct sunlight. Keep in a dry, low-fire risk area, away from sources of heat or ignition and electrostatic charges.

8. Exposure Controls/Personal Protection

Engineering Controls: Control process conditions to avoid contact. Use in a well-ventilated area only.

Personal Protective Equipment: Wear face shield or goggles. Wear cotton overalls buttoned to the neck and wrist and a washable hat. Wear elbow-length PVC gloves. If working in a poorly ventilated area or if occupational exposure levels are likely to be exceeded, wear a respirator suitable for organic vapors .

9. Physical and Chemical Properties

Appearance: Oily odorless liquid

Water Solubility: 4700 mg/L @ pH 7 and 20 °C

Solubility in Other Solvents: v.s. in methanol, hexane, and acetone

Melting Point: Not Available Relative Density: 1.043@25°C

Vapor Pressure: <0.013 mPa @ 20°C

Density 1.043 (25°C)

Partition Coefficient: 1.6542 @ pH 7

Adsorption Coefficient: 100 (estimated)

10. Stability and Reactivity

Chemical Stability: Stable under normal conditions of use.

Hazardous Polymerization: Will not polymerise.

Conditions To Avoid: Avoid sources of ignition and extreme heat.

11. Toxicological Information

Oral toxicity: LD₅₀ rat (female): 3047 mg/kg (product)

LD₅₀ rat (male): 4216 mg/kg (product)

Dermal toxicity: LD₅₀ rat: > 5000 mg/kg (product)

Inhalation toxicity: LC₅₀ rat (4h): 4.6 mg/L (product)

Skin irritation: Mildly irritating (rabbit) (product)

Eye irritation: Irritating (rabbit) (product)

Sensitisation: Non-sensitising (guinea pig) (product)

Reproductive effects: When pregnant rabbits were fed 40, 160, or 480 mg/kg/day, decreased litter size, low fetal weights, severe maternal weight loss, increased fetal resorptions, spontaneous abortions, and maternal deaths occurred at the 480 mg/kg level . Based on this study, reproductive effects are unlikely in humans at expected exposure levels.

Teratogenic effects: No developmental effects were observed in offspring of rats at maternal dose levels of 40, 100, or 250 mg/kg/day. Increased numbers of skeletal and visceral abnormalities occurred in rabbits at doses of 480 mg/kg/day. These data suggest that sethoxydim is unlikely to be teratogenic in humans at expected exposure levels.

Mutagenic effects: Several tests of the mutagenicity of sethoxydim indicate that it is not mutagenic.

Carcinogenic effects: No carcinogenic effects were observed at any dose level when mice were fed 6, 18, 54, or 162 mg/kg/day for 2 years. This suggests that sethoxydim is not carcinogenic.

Organ toxicity: Liver and bone marrow effects and increased thyroid weight have been reported in dogs.

12. Ecological Information

Effects on birds: Sethoxydim is practically nontoxic to birds. The acute oral LD50 for sethoxydim in mallard ducks is greater than 2510 mg/kg, and in Japanese quail is greater than 5000 mg/kg. Its dietary LC50 in mallards and bobwhite quail is greater than 5620 ppm.

Effects on aquatic organisms: Sethoxydim is moderately to slightly toxic to aquatic species. A 3-hour LC50 of 1.5 mg/L is reported in Daphnia. In fish, 96-hour LC50 values range from 1.6 mg/L in carp, to 32 mg/L in rainbow trout, and 100 mg/L in bluegill sunfish.

Effects on other organisms: Sethoxydim has low toxicity to wildlife. It is nontoxic to bees.

13. Disposal Considerations

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

14. Transport Information

Not applicable

15. Regulatory Information

Not applicable

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.