



Hangzhou Tianlong Biotechnology Co., Ltd.

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MATERIAL SAFETY DATA SHEET

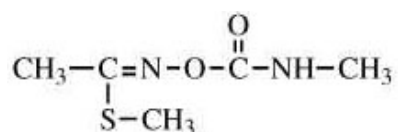
1. Chemical Product and company Identification

Product Name: Methomyl

Molecular Formula: C₅H₁₀N₂O₂S

Molecular Weight: 162.2

Structural Formula:



Chemical Name: S-methyl N-[(methylcarbamoyl)oxy]thioacetimidate(CAS8Cl)

CAS No.: 16752-77-5

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Methomyl	16752-77-5	98.0
Other ingredients		2.0

3. Hazards Identification

Methomyl is a carbamate compound which inhibits cholinesterase. It is of very high toxicity. Contact with skin, inhalation of dust or spray, or swallowing may be fatal. Toxic to fish and bees.

Eye contact: Highly toxic. Mildly irritating to eyes.

Skin contact: Highly toxic. Mildly irritating to skin.

Ingestion: Highly toxic.

Inhalation: Highly toxic.

4. First Aid Measures

If Swallowed: Call a physician or Poison Control Center immediately. Do not induce

vomiting. Drink two glasses of water. Never induce vomiting or give anything by mouth to an unconscious person.

If Inhaled: Remove patient to fresh air. If not breathing, give mouth to mouth resuscitation and call a physician immediately.

If in Eyes: Flush with water for at least 15 minutes. Call a physician immediately.

If on Skin: Remove contaminated clothing and wash skin with soap and water.

If irritation persists, call a physician. Launder contaminated clothing before re-use.

Note to Physician: Methomyl is a cholinesterase inhibitor. Atropine is antidotal.

Medical Conditions Generally Aggravated By Exposure

Cholinesterase depression

5. Fire-Fighting Measures

Extinguishing Media: Use National Fire Protection Association(NFPA) Class B extinguishers (Carbon dioxide, dry chemical, halon, water spray or foam).

Unusual fire and explosion hazards: In common with many organic Chemicals, including the majority of dyes and pigments in powder form.

Special fire fighting procedures: Firefighters should be equipped with self contained breathing apparatus to protect from potentially toxic and irritating fumes.

6. Accidental Release Measures

Steps to be taken in case material is released or spilled: Clean up- Use normal protective equipment.

Waste disposal method: Dispose of in accordance with local regulations. Do not put in climate-closed containers.

7. Handling and Storage

Precautions to be taken in handling and storing: Liquid concentrate may be fatal if swallowed; poisonous if inhaled. Do not breathe dust or spray mist. Do not get in eyes, on skin or on clothing. Liquid formulations are flammable. Keep away from heat, sparks, and open flame. Do not subject liquid to temperatures below 32 F. Store in original container only.

Other precautions: Do not take internally. Handle with due care. Avoid unnecessary contact.

8. Exposure Controls/Personal Protection

Respiratory protection: Respiration or Mask.

Ventilation: No special ventilation is needed. Local exhaust is recommended.

Protective gloves: Rubber gloves.

Eye protective: Chemicals goggles.

Other protective equipment: Impervious protective clothing.

9. Physical and Chemical Properties

Form: crystalline

Color: white

Odor: slightly sulfurous odor

Water Solubility: 57.9 g/l @ 25°C

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

Melting Point: 79°C

Vapor Pressure: 6.65 mPa @ 25°C

Partition Coefficient: Not Available

Adsorption Coefficient: 72

Bulk density: 1.3

10. Stability and Reactivity

Stability: Stable

Conditions to avoid: None

Incompatibility (Materials to avoid): None known

Hazardous decomposition products: Burning may yield carbon monoxide.

Hazardous polymerization: will not occur.

11. Toxicological Information

Acute toxicity: Methomyl is highly toxic via the oral route, with reported oral LD50 values of 17 to 24 mg/kg in rats, 10 mg/kg in mice, and 15 mg/kg in guinea pigs. Symptoms of methomyl exposure are similar to those caused by other carbamates and cholinesterase inhibitors. These may include weakness, blurred vision, headache, nausea, abdominal cramps, chest discomfort, constriction of pupils, sweating, muscle tremors, and decreased pulse. If there is severe poisoning, symptoms of twitching, giddiness, confusion, muscle incoordination, slurred speech, low blood pressure, heart irregularities, and loss of reflexes may also be experienced. Death can result from discontinued breathing, paralysis of muscles of the respiratory system, intense constriction of the openings of the lung, or all three.

Reproductive effects: Methomyl fed to rats at dietary doses of 2.5 or 5 mg/kg for three generations caused no adverse effect on reproduction, nor was there any evidence of congenital abnormalities. No fetotoxicity was observed in offspring of pregnant rats given 33.9 mg/kg/day on day 6 to 21 of gestation. Based on these data it appears unlikely that methomyl will have reproductive effects.

Teratogenic effects: No teratogenic effects were found in the fetuses of female rabbits that were fed approximately 15 to 30 mg/kg/day during the 8th to 16th day of gestation. In rats, no embryonic or teratogenic effects were observed at the highest dietary dose administered, approximately 34 mg/kg/day. Thus, methomyl does not appear to be teratogenic.

Mutagenic effects: In a number of assays (including Ames test, a reverse mutation assay, a recessive lethal assay, three DNA damage studies, an unscheduled DNA synthesis assay, and in vivo and in vitro cytogenetic assays), methomyl was not mutagenic. There is no evidence that methomyl is a mutagenic or genotoxic.

Carcinogenic effects: There was no evidence of carcinogenicity in either rats or dogs that ingested high doses of methomyl in 2-year feeding studies. Methomyl was not

carcinogenic in 22- and 24-month studies with rats fed doses of up to 20 mg/kg, nor in a two-year study with mice fed dietary doses of up to 93.4 mg/kg/day. The evidence suggests that methomyl is not carcinogenic.

12. Ecological Information

Effects on birds: Methomyl is highly toxic to birds. The acute oral LD50 in bobwhite quail is 24.2 mg/kg. The oral LD50 of methomyl is 28 mg/kg in hens. All deaths occurred within ten minutes of dosing. The clinical signs of toxicity included tearing of the eyes, salivation, occasional convulsions, and respiratory disorders. In Japanese quail, the LD50 is 34 mg/kg. The LD50 of a 90% pure formulation is 15.9 mg/kg in eight-month-old mallards, and 15.4 mg/kg in three- to four-month-old male pheasants. The LD50 for starlings is 42 mg/kg and for redwinged blackbirds is 10 mg/kg.

Effects on aquatic organisms: Methomyl is moderately to highly toxic to fish and highly toxic to aquatic invertebrates. The 96-hour LC50 in rainbow trout for a liquid formulation of methomyl is 3.4 mg/L and for bluegill sunfish is 0.8 mg/L. The 48-hour LC50 for *Daphnia magna* (a small, freshwater crustacean) is 0.0287 mg/L. A 28-day fish residue study indicated that methomyl did not accumulate in fish tissue. Methomyl is unlikely to bioconcentrate in aquatic systems.

Effects on other organisms: Methomyl is highly toxic to bees both by direct contact and through ingestion. The LD50 for a 90% pure formulation of methomyl is 11.0 to 22.0 mg/kg in mule deer. Symptoms of acute poisoning in these animals included drowsiness, drooling, diarrhea, and tremor.

13. Disposal Considerations

Waste Disposal Method

Pesticide Disposal: Pesticides that cannot be used according to label must be disposed of according to applicable Federal, State and local regulations.

Container Disposal: Container may be triple rinsed then offered for recycling or reconditioning, or punctured and disposed of in a sanitary landfill or by other approved State and local procedures.

14. Transport Information

UN NO.:2757

UN Hazard Class: 6.1

UN Pack Group: II

15. Reactivity data

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.

Avoid release to the environment.

16. Other Information

This MSDS summarizes our best knowledge of the health and safety hazard

information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the

context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.