

## Material Safety Data Sheet (MSDS)

<b>Section 1: Chemical Product and Company Identification</b>	
<b>Product Name</b>	Isopropyl Ethyl Thionocarbamate
<b>CAS Number</b>	141-98-0
<b>Chemical Formula</b>	$(\text{CH}_3)_2\text{CHOC}(\text{S})\text{NHC}_2\text{H}_5$
<b>Company Name</b>	CAMACHEM (Part of CAMAL Group) 3F Jinlong East Beijing Station Road Chaoyang District, Beijing, China
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<b>Company Website</b>	<a href="http://www.camachem.com">www.camachem.com</a>
<b>Section 2: Composition and Information on Ingredients</b>	
<b>Name</b>	Isopropyl Ethyl Thionocarbamate
<b>CAS #</b>	141-98-0
<b>% by Weight</b>	>95
<b>Section 3: Hazards Identification</b>	
<b>Potential Acute Health Effects:</b>	Not available.
<b>Other Health Hazard Comments:</b>	The thionocarbamate component of this product may have slight anticholinesterase activity (interference with normal nerve signal transmission).
<b>Section 4: First Aid Measures</b>	
<b>Eye Contact:</b>	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
<b>Skin Contact:</b>	Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.
<b>Inhalation:</b>	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

<b>Ingestion:</b>	Induce vomiting immediately as directed by medical personnel. Get medical attention. Call a Poison Control Center.
<b>Section 5: Fire and Explosion Data</b>	
<b>Flammability of the Product:</b>	Not available.
<b>Auto-Ignition Temperature:</b>	Not available.
<b>Flash Points:</b>	81.0 °C
<b>Fire Extinguishing Media:</b>	Dry chemical, foam or carbon dioxide (CO <sub>2</sub> ).
<b>Fire Fighting Procedures:</b>	Evacuate area of all necessary personnel. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Shut off source of ignition, if possible. Water fog or spray may be used to cool exposed containers and equipment.
<b>Other Explosion Hazards:</b>	Carbon and Sulphur Oxides may form when burned.
<b>Toxic Gases Produced:</b>	Not available.
<b>Section 6: Accidental Release Measures</b>	
<b>In Case of Spill or Leak:</b>	Contain spill. Stop leak at source if this can be done safely. Ventilate area. Nonessential personnel should leave the area until cleanup is completed. Pump liquid into DOT-approved drums for disposal. Absorb remaining liquid onto inert absorbent and place in DOT approved drums for disposal. Wash area with water. Keep concentrate and wash water from entering sewers or waterways. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.
<b>Section 7: Handling and Storage</b>	
<b>Precautions:</b>	Do not taste or swallow. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.
<b>Storage:</b>	Keep container closed. Store in a cool, dry, well ventilated area. Keep away from food and drink.

	Isolate from incompatible materials (see Section 10).
<b>Section 8: Exposure Controls/Personal Protection</b>	
<b>Airborne Exposure Limits:</b>	Carbamothioic acid, ethyl-, O-(1-methylethyl) ester: 0.01 mg/m <sup>3</sup> (OSHA) PEL Isopropyl Alcohol: 500 ppm OSHA/ACGIH STEL
<b>Ventilation System:</b>	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, a Manual of Recommended Practices, most recent edition, for details.
<b>Respiratory Protection:</b>	For concentrations exceeding the recommended exposure level, use NIOSH/MSHA (1) approved air-purifying respirator. In case of spill or leak resulting in unknown concentrations, use NIOSH/MSHA (1) approved supplied air respirator. When entry into or exit from concentrations of unknown exposure, use NIOSH/MSHA (1) approved self-contained breathing apparatus (SCBA).
<b>Eyes/Face Protection:</b>	Use chemical goggles. For splash protection, use face shield with chemical goggles.
<b>Skin Protection:</b>	Use protective garments to prevent excessive skin contact. Use impervious gloves, such as nitrile or neoprene.
<b>Other Protection:</b>	Protection required for work on contaminated equipment. Wear protective equipment and/or garments if exposure conditions warrant. Contact immediate supervisor for specific instructions before work is initiated.
<b>Section 9: Physical and Chemical Properties</b>	
<b>Physical state and appearance:</b>	Clear liquid.
<b>Taste:</b>	Not available.
<b>Molecular Weight:</b>	Not available.
<b>Color:</b>	Yellowish.
<b>pH (1% soln/water):</b>	Not available.
<b>Boiling Point:</b>	Not available.
<b>Melting Point:</b>	193°C (379°F)
<b>Critical Temperature:</b>	Not available.
<b>Specific Gravity:</b>	0.99-0.994
<b>Vapor Pressure:</b>	Not available.

<b>Vapor Density:</b>	Not available.
<b>Flash Point &amp; Method:</b>	81.0°C ASTM D93-02
<b>Solubility:</b>	Insoluble in water. Very soluble in alcohol, ethyl ether, benzene, petroleum benzene, etc.
<b>Section 10: Stability and Reactivity Data</b>	
<b>Stability:</b>	Stable.
<b>Instability Temperature:</b>	Not available.
<b>Conditions of Instability:</b>	Not available.
<b>Incompatibility with various substances:</b>	Oxygen and strong oxidizing agents
<b>Corrosivity:</b>	Carbon and Sulphur Oxides may form when burned.
<b>Reactivity Data:</b>	Not available.
<b>Polymerization:</b>	Will not occur.
<b>Section 11: Toxicological Information</b>	
<b>Carbamothioic acid, ethyl-, O-(1-methylethyl) ester:</b>	LC50 for fingerling trout is 32mg/l.
<b>Isopropyl Alcohol:</b>	Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation, rat: 16,000 ppm 8 hr. Investigated as a mutagen, tumorigen, reproductive effector.
<b>Section 12: Ecological Information</b>	
<b>Environmental Fate:</b>	<p><b>Carbamothioic acid, ethyl-, O-(1-methylethyl) ester:</b> No information found.</p> <p><b>Isopropyl Alcohol:</b> When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.</p>
<b>Environmental Toxicity:</b>	<b>Carbamothioic acid, ethyl-, O-(1-methylethyl) ester:</b> No information found.

	<b>Isopropyl Alcohol:</b> The LC50/96-hour values for fish are over 100 mg/l. This material is not expected to be toxic to aquatic life.
<b>Section 13: Disposal Considerations</b>	
<b>Waste Disposal:</b>	Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.
<b>Container Handling and Disposal:</b>	Any containers or equipment used should be decontaminated immediately after use.
<b>Section 14: Transport Information</b>	
<b>IMDG:</b>	Not regulated.
<b>Canada TDG:</b>	Not regulated.
<b>Section 15: Other Regulatory Information</b>	
<b>Canada DSL Inventory Status:</b>	Carbamothioic acid, ethyl-, O-(1-methylethyl) ester (CAS: 141-98-0): Yes
<b>Canada WHMIS:</b>	Carbamothioic acid, ethyl-, O-(1-methylethyl) ester (CAS: 141-98-0): B.3, D.2B Yes
<b>Section 16: Other Information</b>	
<b>References:</b>	None.
<b>Other Special Considerations:</b>	None.
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