



Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Irritating to skin, eyes, and the respiratory system. POSSIBLE CARCINOGEN. MINIMIZE EXPOSURE.	

Section I. Chemical Product and Company Identification

Chemical Name	Methyl Stearate [Standard Material for GC]		
Catalog Number	S0312	Supplier	TCI America 9211 N. Harborside St. Portland OR 1-800-423-8616
Synonym	Octadecanoic acid, methyl ester (CA INDEX NAME); Stearic Acid Methyl Ester; Methyl n-octadecanoate		
Chemical Formula	C ₁₉ H ₃₈ O ₂		
CAS Number	112-61-8	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Methyl Stearate [Standard Material for GC]	112-61-8	Min. 99.5 (GC)	This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.	Not available.

Section III. Hazards Identification

Acute Health Effects	Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic Effects. Mouse TDLo Subcutaneous 5200 mg/kg/26 weeks intermittent TOXIC Effects: Tumorigenic - Equivocal tumorigenic agent by RTECS criteria Tumorigenic - Tumors at site of application DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	153°C (307.4°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

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Emergency phone number (800) 424-9300

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Irritating material. Possibly carcinogenic material.
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and StorageHandling and Storage
Information

IRRITANT. POSSIBLE CARCINOGEN. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. Do not breathe dust.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Splash goggles. Lab coat. Dust respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.



Exposure Limits

This chemical is classified as a possible carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Solid. (White crystal.)	Solubility	Not available.
Specific Gravity	Not available.		
Molecular Weight	298.50	Partition Coefficient	Not available.
Boiling Point	181 to 182°C (357.8 to 359.6°F) @ 4 mmHg	Vapor Pressure	Not applicable.
Melting Point	37°C (98.6°F) (freezing point)	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents.

Section XI. Toxicological Information

RTECS Number	WI4460000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Not available.
Chronic Toxic Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Tumorigenic Effects. Mouse TDLo Subcutaneous 5200 mg/kg/26 weeks intermittent TOXIC Effects: Tumorigenic - Equivocal tumorigenic agent by RTECS criteria Tumorigenic - Tumors at site of application DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.</p>
Acute Toxic Effects	<p>Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>

Section XII. Ecological Information

Ecotoxicity Not available.

Environmental Fate

Methyl stearate's production and use as a synthetic intermediate may result in its release to the environment through various waste streams. Methyl stearate is found naturally as a flavor component of some foods. If released to air, a vapor pressure of 1.the half-life for this reaction in air is estimated to be 18 hours. Particulate-phase methyl stearate will be removed from the atmosphere by wet and dry deposition. If released to soil, methyl stearate is expected to have no mobility based upon an estimated Koc of 62,000. Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of 0.016 atm-cu m/mole. However, adsorption to soil is expected to attenuate volatilization. Methyl stearate is expected to rapidly biodegrade in aerobic soils based on the results of screening studies. If released into water, methyl stearate is expected to adsorb to suspended solids and sediment in the water column based upon the estimated Koc. Methyl stearate is expected to rapidly biodegrade in aerobic waters based on the results of screening studies. Volatilization from water surfaces is expected to be an important fate process based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 5 and 160 hours, respectively. However, volatilization from water surfaces is expected to be attenuated by adsorption to suspended solids and sediment in the water column. The volatilization half-life from a model pond is estimated to be about 61 hours ignoring adsorption; when considering maximum adsorption the volatilization half-life increases to 17 months. An estimated BCF of 29 suggests the potential for bioconcentration in aquatic organisms is low. An estimated base-catalyzed second-order hydrolysis rate constant of 0.030 L/mole-sec corresponds to half-lives of 7.3 years and 266 days at pH values of 7 and 8, respectively. Occupational exposure to methyl stearate may occur through inhalation and dermal contact with this compound at workplaces where methyl stearate is produced or used. The general population may be exposed to methyl stearate due to its occurrence in some foods.

Section XIII. Disposal Considerations

Waste Disposal

Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.

Section XIV. Transport Information

DOT Classification Not a DOT controlled material (United States).

PIN Number Not applicable.

Proper Shipping Name Not applicable.

Packing Group (PG) Not applicable.

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**TSCA Chemical Inventory (EPA) This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada) On DSL

EINECS Number (EEC) 203-990-4

EEC Risk Statements R36/37/38- Irritating to eyes, respiratory system and skin.
R45- May cause cancer.

Japanese Regulatory Data ENCS No. 2-798

Section XVI. Other Information

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Notice to Reader

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.