

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Air and light sensitive material. The health risks of this compound have not been fully determined. Exposure may cause irritation of the skin, eyes, and respiratory system.	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Triolein</b>		
Catalog Number	G0089	Supplier	TGI America 9211 N. Harborage St. Portland OR 1-800-423-8616
Synonym	Glycerol Trioleate		
Chemical Formula	$C_{17}H_{33}COOCH(CH_2OCOC_{17}H_{33})_2$		
CAS Number	122-32-7	In case of Emergency Call	<b>Chemtec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Triolein	122-32-7	Min. 80.0%(GC)	Not available.	Not available.

## Section III. Hazards Identification

Acute Health Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : 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	330°C (626°F).	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
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.		

**Section VI. Accidental Release Measures**Spill Cleanup  
Instructions

Air and Light Sensitive Material.  
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.

**Section VII. Handling and Storage**Handling and Storage  
Information

AIR AND LIGHT SENSITIVE. 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 gas/fumes/ vapor/spray. Always store away from incompatible compounds such as oxidizing agents.

**Section VIII. Exposure Controls/Personal Protection**

## Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

## Personal Protection

Splash goggles. Lab coat. Vapor 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

Not available.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Liquid. (Reddish-Yellow Clear.)	Solubility	Soluble in chloroform, ether, carbon tetrachloride
Specific Gravity	0.92 (water=1)		Slightly soluble in alcohol.
			Insoluble in water.
Molecular Weight	885.43	Partition Coefficient	Not available.
Boiling Point	235 to 240 °C (455 to 464 °F) @ 18 mmHg	Vapor Pressure	Not available.
Melting Point	-4 to -5 °C (24.8 to 23 °F)	Vapor Density	Not available.
Refractive Index	1.467 to 1.472	Volatility	Not available.
Critical Temperature	Not available.	Odor	Odorless.
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	Highly reactive with oxidizing agents.

**Section XI. Toxicological Information**

RTECS Number	RG1936500
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Not available.
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> : Not available. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate

Triolein's production and use as textile lubricant may result in its release to the environment through various waste streams. Triolein is found in cacao butter and accounts for 70-80% of olive oil. If released to air, an estimated vapor pressure of  $5.2 \times 10^{-17}$  mm Hg at 25 deg C indicates triolein will exist solely in the particulate phase in the ambient atmosphere. Particulate-phase triolein will be removed from the atmosphere by wet and dry deposition. Triolein does not contain chromophores that absorb light at wavelengths  $>290$  nm and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, triolein is expected to have no mobility based upon an estimated Koc of  $1 \times 10^{+10}$ . Volatilization from moist soil surfaces is expected to be an important fate process based upon an estimated Henry's Law constant of  $9.6 \times 10^{-4}$  atm-cu m/mole; however, soil adsorption will attenuate volatilization greatly. <sup>14</sup>C-Labeled triolein biodegraded to CO<sub>2</sub> at a rate of 63.5% to 84% over 140 days in a sewage sludge-amended soil, suggesting that biodegradation may occur slowly in the soil environment. If released into water, triolein is expected to adsorb to suspended solids and sediment based upon the estimated Koc. 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 days and 66 days, respectively. However, volatilization from water surfaces is expected to be attenuated by adsorption to suspended solids and sediment in the water column. The estimated volatilization half-life from a model pond is  $5.1 \times 10^{+5}$  years if adsorption is considered. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low. A base-catalyzed second-order hydrolysis rate constant of 0.15 L/mole-sec was estimated using a structure estimation method; this corresponds to half-lives of 1.5 years and 55 days at pH values of 7 and 8, respectively. Occupational exposure to triolein may occur through dermal contact with this compound at workplaces where triolein is produced or used. Monitoring data indicate that the general population may be exposed to triolein via ingestion of some food products containing triolein as well as via dermal contact with consumer products containing triolein.

**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)

204-534-7

EEC Risk Statements

Not available.

Japanese Regulatory Data

Not available.

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 9/14/2007.**  
**Printed 9/14/2007.**

**Notice to Reader**

TCI 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.