

5/28/08



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 05/10/2008
Date Updated: 02/05/2006
Version 1.60

Section 1 - Product and Company Information

Product Name	TRIOLEIN		
Product Number	92862		
Brand	Fluka Chemical		
Company	Sigma-Aldrich		
Street Address	3050 Spruce Street		
City, State, Zip, Country	SAINT LOUIS, MO 63103 US		
Technical Phone:	800-325-5832	Emergency Phone:	314-776-6555
Fax:	800-325-5052		

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
TRIOLEIN	122-32-7	No	204-534-7	
Formula	C57H104O6			
Synonyms				

Section 3 - Hazards Identification

HMIS Rating
Health: 0 Flammability: 0 Reactivity: 1

NFPA Rating
Health: 0 Flammability: 0 Reactivity: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flash Point: 626 °F 330 °C

Autoignition Temp: N/A

Extinguishing Media Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Methods for Cleaning Up
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling User Exposure
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage Suitable
Keep tightly closed. Store under argon.

Special Requirements
Air and light sensitive. Store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges.

Hand
Protective gloves.

Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance Physical State	Color
Clear viscous liquid	Colorless

1940 05122008 0000003

Molecular Weight 885.46 AMU

<u>Property</u>	<u>Value</u>	<u>At Temperature or Pressure</u>
pH	N/A	
BP/BP Range	235 - 240 °C	18 mmHg
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.913 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	626 °F	Method: closed cup
Flash Point °C	330 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.469	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable.

Conditions of Instability

Air and light sensitive.

Conditions to Avoid

Heat.

Materials to Avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Fluka Chemical - 92862

Page 3

Sigma-Aldrich Corporation

www.sigma-aldrich.com

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

Fluka Chemical - 92862

Page 4

Sigma-Aldrich Corporation

www.sigma-aldrich.com



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 05/12/2008
Date Updated: 02/02/2006
Version 1.50

Section 1 - Product and Company Information

Product Name: Methyl oleate
Product Number: O4754
Brand: Sigma Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Table with 5 columns: Substance Name, CAS #, SARA 313, EC no, Annex I Index Number. Row 1: METHYL OLEATE, 112-62-9, No, 203-992-5

Formula: C19H36O2
Synonyms: Emereest 2801, Emery oleic acid ester 2301, Methyl cis9-octadecenoate, Methyl (Z)9-octadecenoate, Methyl oleate, NSC 406282, (Z)9-Octadecenoic acid, methyl ester

Section 3 - Hazards Identification

Emergency Overview
Caution: Avoid contact and inhalation.

HMIS Rating
Health: 1 Flammability: 0 Reactivity: 1

NFPA Rating
Health: 1 Flammability: 0 Reactivity: 1

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flash Point: 235 °F 113 °C

Autoignition Temp: N/A

Extinguishing Media Suitable
Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Methods for Cleaning Up
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling User Exposure
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage Suitable
Keep tightly closed. Store at -20°C

Special Requirements
Air and light sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges.

Hand
Protective gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance Physical State: Clear liquid
Color: Almost colorless

Molecular Weight 296.5 AMU

Property **Value** **At Temperature or Pressure**

pH N/A
BP/BP Range 168 - 170 °C 2 mmHg
MP/MP Range N/A
Freezing Point N/A
Vapor Pressure 10 mmHg 205 °C
Vapor Density N/A
Saturated Vapor Conc. N/A
SG/Density 0.874 g/cm³
Bulk Density N/A
Odor Threshold N/A
Volatile% N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point °F 235 °F
Flash Point °C 113 °C

Method: closed cup
Method: closed cup

Explosion Limits N/A

Flammability N/A
Autoignition Temp N/A
Refractive Index 1.452
Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable
Stable.

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: RK0895000

Chronic Exposure- Carcinogen

Mouse - Skin: 54 GM/KG 45W I

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Blood: Leukemia Skin and Appendages: Other: Tumors.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Safety Statements S: 23 24/25

Do not breathe vapor. Avoid contact with skin and eyes.

US Classification and Label Text

US Statements

Caution: Avoid contact and inhalation.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or fom contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.