

<b>MSDS</b>		<b>Material Safety Data Sheet</b>
<p>From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865</p> <p>Mallinckrodt CHEMICALS</p> <p></p>		
<p>24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300</p> <p>National Response in Canada CANUTEC: 613-996-6666</p> <p>Outside U.S. and Canada Chemtrec: 703-527-3887</p> <p>NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.</p>		
<p>All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.</p>		

## OLEIC ACID

### 1. Product Identification

**Synonyms:** 9-Octadecenoic Acid  
**CAS No.:** 112-80-1  
**Molecular Weight:** 282.46  
**Chemical Formula:** CH<sub>3</sub>(CH<sub>2</sub>)<sub>7</sub>CH:CH(CH<sub>2</sub>)<sub>7</sub>COOH  
**Product Codes:**  
J.T. Baker: 0224  
Mallinckrodt: 2744

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
9-Octadecenoic Acid, (Z)-	112-80-1	100%	Yes

### 3. Hazards Identification

#### Emergency Overview

**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

#### SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating: 0 - None  
Flammability Rating: 1 - Slight  
Reactivity Rating: 1 - Slight  
Contact Rating: 1 - Slight  
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES  
Storage Color Code: Green (General Storage)

#### Potential Health Effects

##### Inhalation:

May cause irritation to the respiratory tract.

##### Ingestion:

Extremely large oral dosages may produce gastrointestinal disturbances.

##### Skin Contact:

Mild irritant, possibly causing surface inflammation especially on prolonged contact with oily skin.

##### Eye Contact:

Mild irritant on prolonged contact, causing reddening, possibly blurred vision.

##### Chronic Exposure:

No adverse health effects expected.

##### Aggravation of Pre-existing Conditions:

No adverse health effects expected.

### 4. First Aid Measures

#### Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

If large amounts were swallowed, give water to drink and get medical advice.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse.

Get medical attention if irritation develops or persists.

**Eye Contact:**

In case of contact, flush eyes with plenty of water for at least 15 minutes. Get medical advice if irritation develops.

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## 5. Fire Fighting Measures

**Fire:**

Flash point: 189C (372F)

As with most organic liquids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Explosion is possible at or above conditions given above.

**Fire Extinguishing Media:**

Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

**Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Do not use heavy streams of water, molten material will float on water.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! Remove all sources of ignition.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Outside or detached storage is recommended. Store in the dark. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

None established.

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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.

**Personal Respirators (NIOSH Approved):**

Not expected to require personal respirator usage.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Pale yellow or brownish-yellow oily liquid.

**Odor:**

Characteristic lardlike odor.

**Solubility:**

Insoluble in water.

**Specific Gravity:**

0.895 @ 25C/25C

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

360C (680F)

**Melting Point:**

16.3C (61F)

**Vapor Density (Air=1):**

No information found.

**Vapor Pressure (mm Hg):**

1.0 @ 176C (349F)

**Evaporation Rate (BuAc=1):**  
No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. On exposure to air it can oxidize and turn yellow to brown in color with a rancid odor.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Aluminum, perchloric acid. Oxidizing agents.

**Conditions to Avoid:**

Excessive heat or cold, light, air.

## 11. Toxicological Information

Oral rat LD50: 25 gm/kg. Irritation: skin rabbit: 500 mg open mild. Investigated as a tumorigen and mutagen.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		
	Known	Anticipated	IARC Category
9-Octadecenoic Acid, (Z)- (112-80-1)	No	No	None

## 12. Ecological Information

**Environmental Fate:**

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 of less than 1 day. When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is expected to have a half-life of less than 1 day. When released into water, this material is expected to readily biodegrade. 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 evaporate to a moderate extent. This material has a log octanol-water partition coefficient of greater than 3.0. This material has an estimated bioconcentration factor (BCF) of greater than 100.

**Environmental Toxicity:**

No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
9-Octadecenoic Acid, (Z)- (112-80-1)	Yes	Yes	Yes	Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	--Canada--			
Ingredient	Korea	DSL	NDSL	Phil.
9-Octadecenoic Acid, (Z)- (112-80-1)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
Ingredient	RQ	TPQ	List	Chemical Catg.
9-Octadecenoic Acid, (Z)- (112-80-1)	No	No	No	No

-----\Federal, State & International Regulations - Part 2\-----				
Ingredient	-RCRA-		-TSCA-	
Ingredient	CERCLA	261.33	8(d)	
9-Octadecenoic Acid, (Z)- (112-80-1)	No	No	No	

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: No      Fire: No      Pressure: No  
Reactivity: No      (Pure / Liquid)

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 1 Reactivity: 0

**Label Hazard Warning:**

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing vapor or mist.

Use with adequate ventilation.

Keep container closed.

**Label First Aid:**

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3, 11.

**Disclaimer:**

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