MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

MSDS Name: Oleic acid

Catalog Numbers: S80110, S93316, A195-500, A195B500, NC9368066, XXA19520LI

Synonyms: cis-9-Octadecenoic acid; red oil; a monounsaturated fatty acid; a component of almost all natural fats.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 112-80-1
Chemical Name: Oleic acid
%: >97
EINECS#: 204-007-1

Hazard Symbols: None listed

Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! Air sensitive. Refrigerate upon arrival below 4°C/39°F. May cause eye, skin, and respiratory tract irritation. Target Organs: Skin.

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. Prolonged or repeated contact may dry/defat the skin and cause irritation.

Ingestion: May cause irritation of the digestive tract. Low hazard for usual industrial handling.

Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin: Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Liquid will float and may reignite on the surface of water.

Extinguishing Media: Water or foam may cause frothing. Use dry chemical or carbon dioxide.

Autoignition Temperature: 363 deg C (685.40 deg F)

Flash Point: 184 deg C (363.20 deg F)

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 1; flammability: 1; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with air and sunlight.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Absorbs oxygen from the air and will darken upon exposure. Refrigerate upon arrival below 4°C/39°F.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Oleic acid	none listed	none listed	none listed

OSHA Vacated PELs: Oleic acid: None listed

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Glove protection is not normally required.

Clothing: Protective garments not normally required.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: colorless to pale red
Odor: lardlike
pH: Not available
Vapor Pressure: 1 mm Hg @ 177 deg C
Vapor Density: 9.7 (air=1)
Evaporation Rate: Negligible.
Viscosity: Not available
Boiling Point: 360 deg C (680.00°F)
Freezing/Melting Point: 13.4 deg C (56.12°F)
Decomposition Temperature:
Solubility in water: Insoluble
Specific Gravity/Density: 0.895 (water=1)
Molecular Formula: C18H34O2
Molecular Weight: 282.46

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures. Darkens on exposure to air. On exposure to air, acquires rancid odor.
Conditions to Avoid:	High temperatures, light, exposure to air.
Incompatibilities with Other Materials	Strong oxidizing agents, perchloric acid, powdered aluminum.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Hazardous Polymerization	Has not been reported.

Section 11 - Toxicological Information

RTECS#:	CAS# 112-80-1: RG2275000
LD50/LC50:	RTECS: **CAS# 112-80-1:** Draize test, rabbit, eye: 100 mg Mild; Oral, mouse: LD50 = 28 gm/kg; Oral, rat: LD50 = 25 gm/kg; . Other: Human Skin Draize 15 mg/3D intermittent; REACTION: Moderate.
Carcinogenicity:	Oleic acid - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:	No information found
Teratogenicity:	No information found
Reproductive:	No information found
Neurotoxicity:	No information found
Mutagenicity:	Not available
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 205 mg/L; 96 Hr.; Static condition

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. RCRA P-Series: None listed. RCRA U-Series: None listed.

Section 14 - Transport Information

US DOT
Shipping Name: Not regulated as a hazardous material
Hazard Class:

UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 112-80-1 is listed on the TSCA Inventory.

Health & Safety Reporting List	None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules	None of the chemicals in this product are under a Chemical Test Rule.
Section 12b	None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule	None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs	None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances	None of the chemicals in this product have a TPQ.
Section 313	No chemicals are reportable under Section 313.
Clean Air Act:	This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:	None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:	
STATE	Oleic acid can be found on the following state right to know lists: Pennsylvania.
California Prop 65	
California No Significant Risk Level:	None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:Not available

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 112-80-1: 1

Canada

CAS# 112-80-1 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 112-80-1 is listed on Canada's Ingredient Disclosure List

Section 16 - Other Information

MSDS Creation Date: 6/09/1999

Revision #8 Date 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.