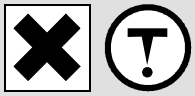
TCI AMERICA

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	**Harmful compound, minimize exposure.** **Irritating to skin, eyes, and the respiratory system.** **CARCINOGEN. MINIMIZE EXPOSURE.** **Air and light sensitive material.** **Heat sensitive material.** **Refrigerate.**	

Section I. Chemical Product and Company Identification

Chemical Name **Oleic Acid**

Catalog Number	O0180
Synonym	cis-9-Octadecenoic Acid
Chemical Formula	$CH_3(CH_2)_7CH:CH(CH_2)_7COOH$
CAS Number	112-80-1

Supplier
TCI America
9211 N. Harborgate St.
Portland OR
1-800-423-8616

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
Oleic Acid	112-80-1	Min. 99.0 (GC,Tit.)	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD_{50} (oral) 25 gm/kg Mouse LD_{50} (intraperitoneal) 282 mg/kg Rat LD_{50} (intravenous) 2400 ug/kg

Section III. Hazards Identification

Acute Health Effects

Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death.
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 : Carcinogenic by RTECS criteria.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Tumorigenic Effects.
Mouse TDLo Skin 6 mL/kg/10 days intermittent.
TOXIC Effects:
Tumorigenic - Carcinogenic by RTECS criteria.
Skin and Appendages - Tumors.
Tumorigenic - Facilitates action of known carcinogens.
Rabbit TDLo subcutaneous 390 mg/kg/17 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.

Continued on Next Page

Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	363°C (685.4°F)
Flash Points	187°C (368.6°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.		

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Harmful material. Irritating material. Carcinogenic material. Air and light sensitive material. Heat 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	HARMFUL. IRRITANT. CARCINOGEN. AIR AND LIGHT SENSITIVE. HEAT SENSITIVE. REFRIGERATE. 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	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Colorless clear.)	Solubility	Soluble in diethyl ether, chloroform, fixed and volatile oils, alcohol, benzene. Miscible in acetone, carbon tetrachloride, methanol. Insoluble in water.
Specific Gravity	0.89 (water=1)		
Molecular Weight	282.46	Partition Coefficient	Not available.
Boiling Point	194°C (381.2°F) @ 1.2 mmHg	Vapor Pressure	1 mmHg (@ 76°C)
Melting Point	4°C (39.2°F)	Vapor Density	Not available.
Refractive Index	1.458-1.461	Volatility	Not available.
Critical Temperature	Not available.	Odor	Lard-like.
Viscosity	Not available.	Taste	Lard-like.

Section X. Stability and Reactivity Data

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

Continued on Next Page

Section XI. Toxicological Information

RTECS Number

RG2275000

Routes of Exposure

Eye Contact. Ingestion. Inhalation.

Toxicity Data

Rat LD_{50} (oral) 25 gm/kg
Mouse LD_{50} (intraperitoneal) 282 mg/kg
Rat LD_{50} (intravenous) 2400 ug/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Carcinogenic by RTECS criteria.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Tumorigenic Effects.
Mouse TDLo Skin 6 mL/kg/10 days intermittent.
TOXIC Effects:
Tumorigenic - Carcinogenic by RTECS criteria.
Skin and Appendages - Tumors.
Tumorigenic - Facilitates action of known carcinogens.
Rabbit TDLo subcutaneous 390 mg/kg/17 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.

Acute Toxic Effects

Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death.
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.

Section XII. Ecological Information

Ecotoxicity

Not available.

Environmental Fate

Oleic acid occurs as a natural product in the essential oils of various plants. It has been identified in various foods, such as brown rice and beef. Oleic acid is released to the atmosphere in emissions from tobacco smoke, biomass combustion, coal/refuse combustion, veneer drying, and cooking hamburger meat. It is also released in wastewater effluents from pulp and paper mills, olive oilproduction, and waste treatment plants. If released to the atmosphere, oleic acid will degrade by reaction with photochemically produced hydroxyl radicals (estimated half-life of about 5 hours). It may be physically removed from air by dry deposition. If released to soil or water, oleic acid is expected to biodegrade; a variety of biodegradation screening studies have demonstrated that oleic acid biodegrades. However, the rate of biodegradation may be diminished due to concurrent adsorption (estimated Koc of 38,000). Occupational exposure to oleic acid occurs primarily through dermal contact. The general population is exposed to oleic acid through consumption of food, consumption of drinking water, and dermal contact with cosmetics and ointments in which it is contained.

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)

Not controlled under WHMIS (Canada).
On DSL.

EINECS Number (EEC)

204-007-1

EEC Risk Statements

R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data

ENCS No. (2)-609, (2)-975

Continued on Next Page

Printed 2/21/2007.

Section XVI. Other Information

Version 1.0
Validated on 2/21/2007.
Printed 2/21/2007.

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.