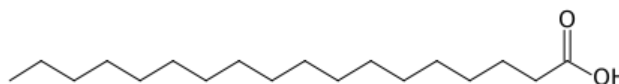


RCT**Rierden Chemical & Trading Company****115 West Church Street****P.O. Box 7072****Libertyville, IL 60048**Tel (847) 816-9310 Fax (847) 816-6364
sales@rierdenchemical.com**Safety Data Sheet****Stearic Acid 92%****I IDENTIFICATION**

Synonyms *n*-octadecanoic acid
 CAS # 57-11-4
 Europe EC # 200-313-4
 Material Use lubricants, soaps, pharmaceuticals & others

**EMERGENCY INFORMATION**

In the U.S.A. Call CHEMTREC (800) 424-9300
 In Canada Call CANUTEC (collect) (613) 996-6666

II HAZARD IDENTIFICATIONGHS Class **NOT HAZARDOUS**

(Category)

Signal Words **NONE**Hazard Statements **NONE**GHS Precautionary Statements for Labelling **NONE****III COMPOSITION**

	CAS NUMBER	%	TLV ppm / mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
n-Octadecanoic Acid	57-11-4	92.0%	not listed	4600	>5000	1620

IV FIRST AID

SKIN: Brush off. Then wash with soap & plenty of water. Remove contaminated clothing. Do not reuse until thoroughly laundered. Seek medical help promptly if there is persistent itching or redness in the affected area.

EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.

INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If victim's breathing stops, administer artificial respiration and seek medical aid promptly.

INGESTION: Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

NOTE: Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this non-toxic product. The stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

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V FLAMMABILITY & FIRE-FIGHTING

Flash Point	196 °C/385 °F (closed cup) ¹ ; 200 °C/392 °F (Cleveland open cup) ¹
Autoignition Temperature	395 °C/743 °F, also 400 °C/752 °F ¹
Flammable Limits	not known
Combustion Products	carbon monoxide, nitrogen oxides, irritating smoke & fumes, part oxidised hydrocarbon fragments
Firefighting Precautions	as for an oil fire (<i>water fog, alcohol-resistant foam, dry chemical</i>); firefighters must wear SCBA
Static Discharge	cannot accumulate a static charge; dust clouds may be flammable or explosive

VI ACCIDENTAL RELEASE MEASURES

Leak Precaution	not applicable – <i>solid substance</i>
Handling Spill	sweep, shovel & store in closed containers for disposal

VII HANDLING & STORAGE

Store and use in a cool environment away from oxidising agents and alkalis.

Stearic acid dust clouds are potentially flammable/explosive. Avoid generating product dust. If dust forms in processing, install adequate ventilation to clear workplace air. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower should be available near the workplace.

NOTE: Molten stearic acid is hotter than 70°C (160°F) and presents a burn hazard to exposed skin.

VIII EXPOSURE CONTROL & PERSONAL PROTECTION

ACGIH TLV	not listed	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed
DNEL (Derived No Effect Levels) ¹			
	Inhalation	TLV Long term: 17.632 mg/kg bw/day	
	Dermal	TLV Long Term: 10 mg/kg bw/day	
	Eye	TLV Not Available	
Ventilation	no special mechanical ventilation required – <i>stearic acid dust may be flammable or explosive; a spark or flame may cause ignition</i> ; if dust clouds form during handling, exhaust ventilation should be installed to clear air		
Hands	no special protective gloves required		
Eyes	safety glasses with side shields – <i>always protect eyes!</i>		
Clothing	no special protective clothing required		

IX PHYSICAL AND CHEMICAL PROPERTIES

NOTE: for Flash Point, Autoignition Temp, & Flammable Limits see Part 5.

Odour & Appearance	white to pale yellow crystals or powder with faint fatty odour
Odour Threshold	not known – nearly odourless
Vapour Pressure	1mmHg / 0.13kPa (174°C/ 345°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	not known – not volatile
Vapour Density (air = 1)	~10 – <i>theoretical value</i>
Decomposition Temperature	360°C to 380°C / 680°C to 716°F
Boiling Point	383°C to 386°C / 721°F to 327°F ¹
Melting Point	66°C / 151°F ¹ , also 69.6°C / 157°F & others
Specific Gravity	0.847 (70°C / 158°F)
Water Solubility	3milligrams/litre (20°C / 68°F)
- in other solvents	ether, acetone, most hydrocarbons, carbon tetrachloride, hot ethanol
Log K _{oc} (<i>Octanol/H₂O Partition Coefficient</i>)	8.2 ¹
Viscosity	9.9centipoise (70°C / 158°F)
pH	none – <i>does not yield hydrogen ions in solution</i>
Molecular Weight	278-286 grams per mole

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X REACTIVITY

Dangerously Reactive With strong oxidising agents, strong reducing agents

Chemical Stability	stable; will not polymerize
Decomposes in Presence of	ultraviolet light, slowly; no other decomposition triggers known
Decomposition Products	short-chain aldehydes and ketones (irritating)
Mechanical Impact	not sensitive

XI TOXICITY INFORMATION**i. ACUTE EXPOSURE**

Skin Contact	not irritating ¹
Skin Absorption	probably nil; no toxic effects likely by this route
Eye Contact	not irritating ¹
Inhalation	little to no effect
Ingestion	large quantities (>100g) may cause nausea & steatorrhea (fatty diarrhoea) – <i>not a route of industrial exposure</i>

ii. CHRONIC EXPOSURE

General	no known effect
Sensitising	not a sensitiser ¹
Carcinogen/Tumorigen	not known to be a tumorigen or a carcinogen in humans or animals ¹
Reproductive Effect	no known effect on humans or animals ¹
Mutagen	not known to be a mutagen or teratogen in humans or animals ¹
Synergistic With	not known
LD ₅₀ (oral)	4600, >5000 ¹ , >6000 ¹ & >10,000mg/kg (rat) – <i>only one death recorded – in the 5000mg/kg test</i>
LD ₅₀ (skin)	>2000 ¹ & >5000mg/kg (rabbit) – <i>no mortality seen</i>
LC ₅₀ (inhalation)	>1620mg/m ³ (rat) – <i>no mortality seen; octanoic acid tested</i>

XII ECOLOGICAL INFORMATION

Bioaccumulation	readily metabolised and will not bioaccumulate
Biodegradation	biodegrades readily & rapidly in the presence of oxygen*; 72% - 95% in 28 days ¹
Abiotic Degradation	reacts with atmospheric hydroxyl (OH) radicals; its estimated ½-life in air is 17 hours
Mobility in soil, water	water insoluble; cannot move through soil and the water column

Marine Toxicity

LC ₅₀ (Fish, 96hr)	>10,000mg/litre (Leuciscus idus) ² – <i>no mortality seen</i>
LC ₅₀ (Crustacea, 48hr)	> 32mg/litre (Daphnia magna) ² – <i>no mortality seen</i> , >20mg/litre (Artemia salina) ²
EC ₅₀ (Algæ, 72 or 96hr)	>0.9mg/litre (Pseudokirchnerella subcapitata) ² – <i>no toxicity observed</i>
LC ₁₀ (Microorganisms)	>883mg/litre (Pseudomonas putida) ² – <i>considered to be the "toxicity threshold"</i>

***NOTE:** Stearic acid is insoluble in water. Biodegradation depends on good emulsification in the watery medium.

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XIII DISPOSAL CONSIDERATIONS

Waste Disposal **do not flush to sewer**; may be incinerated in approved facility with flue gas monitoring & scrubbing, mix with a suitable flammable waste before incineration; may be landfilled if local regulations permit; *depending on the contaminants present, waste stearic acid may be used to manufacture biodiesel*

Containers **Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.

IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5 years). Steel containers must be inspected, pressure tested & recertified every 5 years.
Warning: never cut, drill, weld or grind on or near this container, even if empty.

XIV TRANSPORT INFORMATION**USA 49 CFR & Canada TDG**

Product Identification Number

Shipping Name

Classification

Marine Pollution

ERAP Required

Reportable Quantity (RQ)

UN – not regulated for transport

not regulated for transport

not regulated for transport

not a marine pollutant

No

none

XV REGULATIONS

Canada DSL

on inventory

U.S.A. TSCA

ACTIVE

Europe EINECS

on inventory

U.S.A. Regulations:

Allowable Tolerances: Residues of stearic acid are exempted from the requirement of a tolerance when used as a diluent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Residues of stearic acid are exempted from the requirement of a tolerance when used as a lubricant, component animal tag in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

FIFRA Requirements: Residues of stearic acid are exempted from the requirement of a tolerance when used as a lubricant, component animal tag in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals. Residues of stearic acid are exempted from the requirement of a tolerance when used as a diluent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest.

FDA Requirements: Substance added directly to human food affirmed as generally recognized as safe Stearic acid is an indirect food additive for use as a component of adhesives. Stearic acid is a food additive permitted for direct addition to food for human consumption, as long as 1) the quantity of the substance added to food does not exceed the amount reasonably required to accomplish its intended physical, nutritive, or other technical effect in food, and 2) any substance intended for use in or on food is of appropriate food grade and is prepared and handled as a food ingredient.

SARAPhysical Hazards

- ☐ Explosive
- ☐ Flammable
- ☐ Oxidizer (liquid, solid or gas)
- ☐ Self-reactive
- ☐ Pyrophoric (liquid or solid)
- ☐ Pyrophoric Gas
- ☐ Self-heating
- ☐ Organic peroxide
- ☐ Corrosive to metal
- ☐ Gas under pressure (compressed gas)
- ☐ In contact with water emits flammable gas
- ☐ Combustible Dust
- ☐ Hazard Not Otherwise Classified

Chemical Hazards

- ☐ Acute toxicity (any route of exposure)
- ☐ Skin corrosion or irritation
- ☐ Serious eye damage or eye irritation
- ☐ Respiratory or skin sensitization
- ☐ Germ cell mutagenicity
- ☐ Carcinogenicity
- ☐ Reproductive toxicity
- ☐ Specific target organ toxicity (single or repeated ex.)
- ☐ Aspiration hazard
- ☐ Simple Asphyxiant
- ☐ Hazard Not Otherwise Classified

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(800) 424-9300



XVI OTHER INFORMATION**Date of Preparation** July 2011**Date of Revision** January 2022Prepared for Rierden Chemical & Trading Company, by **Peter Bursztyn***With data from Registry of Toxic Effects of Chemical Substances (RTECS - USA), Hazardous Substance Data Base (HSDB - USA), Cheminfo (CCOHS - Canada), OSHA website, European Chemicals Agency (EChA) dossiers & other sources (below if used), as required/available.**(1) European Chemicals Agency (EChA) dossier on stearic acid: <http://echa.europa.eu/registration-dossier/-/registered-dossier/15163/1>***last page of SDS****PLEASE ENSURE THAT THIS SDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT****EMERGENCY INFORMATION: Call CHEMTREC (800) 424-9300**