

RCT

Rierden Chemical & Trading Company

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Safety Data Sheet

Stearic Acid 70%

I IDENTIFICATION

Synonyms	<i>Fatty acids, C16-C18, hexadecanoic acid & octadecanoic acid</i>		
CAS #	67701-03-5		
Europe EC #	266-928-5		
Material Use	lubricants, soaps, coating products, adhesives, sealants & others		

EMERGENCY INFORMATION

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

II HAZARD IDENTIFICATION

GHS Class (Category)	NOT HAZARDOUS
Signal Words	NONE
Hazard Statements	NONE
GHS Precautionary Statements for Labelling	NONE

III COMPOSITION

	CAS Number	Europe EC #	%
Tetradecanoic Acid, C14	544-63-8	205-582-1	< 1
Hexadecnoic Acid, C16	57-10-3	200-312-9	24 - 30
Octadecanoic Acid, C18	57-11-4	200-313-4	70

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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Chemical Distributors



V FLAMMABILITY & FIRE-FIGHTING

Flash Point	200°C / 392°F (closed cup)
Flammable Limits	not known
Combustion Products	carbon monoxide, carbon dioxide, hydrocarbons, soot, aldehydes, and ketones, 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.

VIII EXPOSURE CONTROL & PERSONAL PROTECTION

ACGIH TLV	not listed	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed
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

Odour & Appearance	white crystals or powder at 30 °
Odour	faint fatty odor
Odour Threshold	not available
Vapour Pressure	<1mmHg / 0.13kPa (165°C/329°F)
Evaporation Rate	not applicable
Vapour Density (air = 1)	not available
Boiling Point	>300 °C / >392 °F at 760 mmHg
Melting Point	60-65 °C / 140-149 °F
Flash Point	200 °C / 392 °F (closed cup)
Flammable Limits	not known
Density	0.84 g/cm ³ @ 20 °C (68 °F)
Water Solubility	113 milligrams/litre (20 °C / 68 °F)
Viscosity	9.5 centipoise (70 °C / 158 °F)
pH	not available
Molecular weight	271-280

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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), carbon monoxide, carbon dioxide
 Mechanical Impact not sensitive

XI TOXICITY INFORMATION**i. ACUTE EXPOSURE**

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

ii. CHRONIC EXPOSURE

General no known effect
 Sensitising not a sensitiser¹
 Carcinogen/Tumorigen not known to be a tumorigen or a carcinogen in humans or animals¹
 Reproductive Effect no known effect on humans or animals¹
 Mutagen not known to be a mutagen or teratogen in humans or animals¹
 Synergistic With not known
 LD₅₀ (oral) >5000¹ mg/kg (rat)
 LD₅₀ (skin) >2000¹ mg/kg (rabbit)
 LC₅₀ (inhalation) >162.1¹ mg/m³ (rat)

XII ECOLOGICAL INFORMATION

Bioaccumulation readily metabolised and will not bioaccumulate
 Biodegradation biodegrades readily & rapidly in the presence of oxygen*; 72% - 95% in 28 days¹
 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

LC₅₀ (Fish, 96hr) >10,000mg/litre (Leuciscus idus)
 LC₅₀ (Aquatic Invertebrate, 48hr) > 32mg/litre (Daphnia magna)
 EC₅₀ (Algæ, 72 or 96hr) >0.9mg/litre (Pseudokirchnerella subcapitata)
 LC₁₀ (Microorganisms) >883mg/litre (Pseudomonas putida)

*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	UN – not regulated for transport
Shipping Name	not regulated for transport
Classification	not regulated for transport
<i>Marine Pollution</i>	<i>not a marine pollutant</i>
<i>ERAP Required</i>	<i>No</i>
<i>Reportable Quantity (RQ)</i>	<i>none</i>

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.

SARA

Physical 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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XVI OTHER INFORMATION**Date of Preparation July 2011****Date of Revision December 2021**Prepared 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:** <https://echa.europa.eu/substance-information/-/substanceinfo/100.000.285>**European Chemicals Agency (EChA) dossier on fatty acids, C16-18:** <https://echa.europa.eu/substance-information/-/substanceinfo/100.060.825>**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**