Rierden Chemical & Trading Company

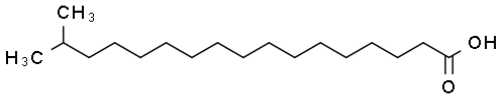
115 West Church Street
P.O. Box 7072, Libertyville, IL 60048
Tel (847) 816-9310 Fax (847) 816-6364
sales@rierdenchemical.com

Safety Data Sheet

Isostearic Acid

I IDENTIFICATION

Synonyms **16-methylheptadecanoic acid, isooctadecanoic acid**
CAS# **30399-84-9**
Europe EC # **250-178-0**
Material Use **personal care products and lubricants**



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	%	TLV ppm / mg/m^3	LD_{50} (*mg/kg*) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
16-Methylheptadecanoic Acid	30399-84-9	100%	not listed	28,800	not known	not known

IV FIRST AID

SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or 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.

V FLAMMABILITY & FIRE-FIGHTING

Flash Point	175-185ºC / 347-365ºF (open cup); 192ºC / 378ºF (closed cup)
Autoignition Temperature	above 300ºC / 572ºF
Flammable Limits	not known
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	foam, dry chemical, water fog or spray to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA
Static Discharge	not known – unlikely to ignite by a static discharge

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VI ACCIDENTAL RELEASE MEASURES

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill	recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for disposal

NOTE: Spilled material may be very slippery!

VII HANDLING & STORAGE

Store and use in a cool dry environment, away from sources of ignition, heat & oxidising agents. Never cut, drill, weld or grind on or near this container, empty or full. Always replace drum, pail or IBC cap prior to moving the container! Avoid generating or breathing product mist. If mist forms in use, install adequate ventilation to clear workplace air. Avoid prolonged contact with skin & wash work clothes frequently. An eye bath 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		
Hands	no special protective gloves required – "Viton" gloves are resistant to this product; confirm suitability with supplier		
Eyes	safety glasses with side shields or chemical goggles – *always protect eyes!*		
Clothing	no special protective clothing required		

IX PHYSICAL AND CHEMICAL PROPERTIES

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

Odour & Appearance	clear, colourless to pale yellow, somewhat viscous liquid with mild fatty odour
Odour Threshold	not known
Vapour Pressure	below 0.0076mmHg / 0.001kPa (20°C/ 68°F)
Evaporation Rate (*Butyl Acetate = 1*)	not known – *not volatile*
Vapour Density (air = 1)	~10 – *theoretical value*
Decomposition Temperature	not known: 360°C to 380°C / 680°C to 716°F – *for similar substance "stearic acid"*
Boiling Point	190°C / 374°F (*at 0.013kPa / 0.1mmHg – very low pressure*)
Melting Point	-21°C / -6°F[1], also 4°C / 39°F (*manufacturer's data*)
Specific Gravity	0.9 (20/20°C)[1]
Water Solubility	below 50milligrams/litre (25°C / 77°F)
- in other solvents	soluble in hydrocarbons, oils
Log $P_{o/w}$ (*Octanol/H_2O Partition Coefficient*)	>5
Viscosity	52centipoise (25°C / 77°F)
pH	none – *does not dissociate yielding hydrogen ions*
Molecular Weight	284grams/mole

X REACTIVITY

Dangerously Reactive With	strong oxidising agents, strong reducing agents
Also Reactive With	reactive metals (eg: Na. Ca, K), finely divided aluminum; strong alkalis cause saponification which may become rapid enough to cause heating and fire; gradually corrodes brass
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

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XI TOXICITY INFORMATION

i. *ACUTE EXPOSURE*

Skin Contact	may be irritating
Skin Absorption	yes, slowly; toxic effects unlikely by this route
Eye Contact	may be severely irritating, may damage eyes
Inhalation	headache, dizzyness, drowsiness, intoxication
Ingestion	short-term diarrhoea & nasal discharge seen in rats at the highest doses
LD_{50} (oral)	28,800mg/kg (rat)[RTECS], >2000, >5000 & >15,900mg/kg (rat)[1] – *no mortality, few symptoms*
LD_{50} (skin)	not known – *no mortality at >2000 & >5000mg/kg (rabbit) with stearic acid, similar substance*
LC_{50} (inhalation)	not known – *no data available, but stearic acid (similar substance) is not toxic on inhalation*

ii. *CHRONIC EXPOSURE*

General	none known
Sensitising	not a sensitiser
Carcinogen/Tumorigen	not known to be a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect on humans or animals
Mutagen	not known to be a mutagen or teratogen in humans or animals
Synergistic With	not known

XII ECOLOGICAL INFORMATION

Isostearic Acid (this produict):

Bioaccumulation	cannot bioaccumulate[1]
Biodegradation	biodegrades in the presence of oxygen; 28%, 67%, 88% in 28 days[1]

NOTE: The low result seems to be an outlier & probably unreliable, largely because stearic acid (very similar substance) is rapidly biodegradable.

Abiotic Degradation	estimated ½-life in air is 11-12 hours[2],
Mobility in soil, water	water insoluble; cannot move through soil & the water column

Aquatic Toxicity

LC_{50} (Fish 48hr)	13.4mg/litre (Cyprinus carpio)[1], >1000mg/litre (Leuciscus idus – *96 hr*)[1]*
LC_{50} (Crustacea, 48hr)	>1000mg/litre (Daphnia magna)[1]*
EC_{50} (Algae, 72hr)	>1000mg/litre (Scenedesmus subspicatus)[1]*
LC_{50} Microorganisms)	>10,000mg/litre (Pseudomonas putida)[1]*
LC_0 (Microorganisms)	>2.4 & >4.8mg/litre (Pseudomonas putida) – *no effect at this dose – the limit of solubility reported in this test*

** These values are well above the limit of solubility for isostearic acid in water (see Part IX).*

***NOTE: Reference #2 states that isostearic acid is: "Inherently toxic to Aquatic Organisms"**. No rationale for this statement is given. The same reference also says that isostearic acid neither bioaccumulates nor persists in the environment. Bacterial toxicity must be low since isostearic acid is rapidly biodegradable (as are other fatty acids) & the LC_0 (above) reported no toxic effect (as for other fatty acids). Finally, it is not classified as toxic to the aquatic environment in Europe. Accordingly, this statement is ignored for GHS classification (see Part 2).*

Stearic Acid (similar substance):

Bioaccumulation	readily metabolised and will not bioaccumulate
Biodegradation	biodegrades readily & rapidly in the presence of oxygen*; 72% - 95% in 28 days[3]
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)[3] – *no mortality seen*
LC_{50} (Crustacea, 48hr)	> 32mg/litre (Daphnia magna)[3] – *no mortality seen*, >20mg/litre (Artemia salina)[3]
EC_0 (Algæ, 72 or 96hr)	>0.9mg/litre (Pseudokirchnerella subcapitata)[3] – *no toxicity observed*
LC_{10} (Microorganisms)	>883mg/litre (Pseudomonas putida)[3] – *considered to be the "toxicity threshold"*

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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; *consider preparing biodiesel from waste material*

Containers **Drums** should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.
Pails must be vented and thoroughly dried prior to crushing and recycling.
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**
Marine Pollution	***not a marine pollutant***
ERAP Required	***No***
Reportable Quantity (RQ)	***none***

XV REGULATIONS

Canada DSL	**on inventory**
U.S.A. TSCA	**ACTIVE**
Europe EINECS	**on inventory**
Korea ECL	**on inventory**
Japan ENCS	**on inventory**
China IECS	**on inventory**
Australia AICS	**on inventory**
Philippines PICCS	**on inventory**
New Zealand NZIoC	**on inventory**

No SARA 311/312

XVI OTHER INFORMATION

Date of Preparation **October 2013**
Date of Revision **October 2016, February 2019 (D. Moreno)**

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 for isodecanoic acid:
https://echa.europa.eu/registration-dossier/-/registered-dossier/13713/1

(2) OECD Categorization Results from the Canadian Domestic Substances List:
http://webnet.oecd.org/CCRWEB/ChemicalDetails.aspx?ChemicalID=3d4460a7-7f7b-4ffb-9dab-31419ece302c

(3) European Chemicals Agency (EChA) dossier on stearic acid:
http://echa.europa.eu/registration-dossier/-/registered-dossier/15163/1

PLEASE ENSURE THAT THIS MSDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.

EMERGENCY INFORMATION: Call CHEMTREC (800) 424-9300

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