

RCT

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Safety Data Sheet

Capric Acid

I IDENTIFICATION

Synonyms	<i>n</i> -decanoic acid, <i>n</i> -decylic acid
CAS #	334-48-5
Europe EC #	206-376-4
Material Use	perfumery, artificial fruit flavours, mfg. of plasticisers, resins & food additives

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)	skin irritant (2)	eye irritant (2)	chronic aquatic (3)
Signal Words	WARNING	WARNING	no Signal Word no Pictogram
Hazard Statements	causes skin Irritation (H315)	causes serious eye irritation (H319)	harmful to aquatic life with long-lasting effects (H412)



GHS Precautionary Statements for Labelling

P262, P264	Do not get in eyes, on skin or on clothing. Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear eye protection, protective leather gloves and tightly woven cotton clothing.
P313 & P333	If skin irritation or rash occurs, get medical advice/attention.
P362, P364	Take off contaminated clothing and wash it before reuse.
P305, P351, P338	Rinse cautiously with water for several minutes. Remove contact lenses if present & easy to do. Continue rinsing.

WHMIS Class (Canada)

Key:

E

B 2 – Flash Point <38°C, B 3 – Flash Point >38°C & <93°C

D 1 – Immediately Toxic, D 2 – Chronic Toxicity

C – Oxidising Substance, E – Corrosive



NOTE (a): According to the Canadian Centre for Occupational Health & Safety (CCOHS) Capric Acid is “corrosive to skin”. According to the EChA, Capric Acid is classified as “irritating” to skin and “severely irritating” to eyes.²

NOTE (b): The EChA classifies Capric Acid as a chronic toxic material in the aquatic environment², despite the fact that it is readily & rapidly biodegradable. No good reason is advanced for this classification.

III COMPOSITION

	CAS NUMBER	%	TLV ₃ ppm / mg/m	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
Capric Acid	334-48-5	100%	not listed	3320	>5000	not known

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IV FIRST AID

- SKIN: Brush off. Then wash with soap & 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 irritation persists.
- 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 stomach should only be emptied under medical supervision, after the installation of an airway to protect the lungs.

V FLAMMABILITY & FIRE-FIGHTING

- Flash Point 147°C / 297°F (closed cup); also open cup values from 135-150°C / 275-302°F
- Autoignition Temperature not known
- Flammable Limits not known
- Combustion Products carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
- Firefighting Precautions as for an oil fire; firefighters must wear SCBA
- Static Discharge product dust accumulate a static charge & may be ignited by static discharge

VI ACCIDENTAL RELEASE MEASURES

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

VII HANDLING & STORAGE

Store and use in a cool dry environment, away from sources of ignition, heat and oxidising agents.

Capric acid *dust* will accumulate a static charge, which may cause ignition, on transfer between containers. Ground all transfer equipment before handling to prevent static discharge.

Capric acid is corrosive to skin & eyes. Avoid generating product dust. If there is any likelihood of dusting, install adequate ventilation to keep the workplace dust-free. Avoid contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

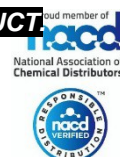
VIII EXPOSURE CONTROL & PERSONAL PROTECTION

- | | | | |
|-------------|--|------------|------------|
| ACGIH TLV | not listed | ACGIH STEL | not listed |
| OSHA PEL | not listed | OSHA STEL | not listed |
| Ventilation | mechanical ventilation may be required to keep workplace dust-free (<i>capric acid is corrosive to skin & eyes</i>) | | |
| Hands | leather gloves | | |
| Eyes | safety glasses with side shields or chemical goggles – <i>always protect eyes!</i> | | |
| Clothing | <i>if dusting is unlikely</i> or can be prevented, no special protective clothing is required;
<i>if dusting is possible</i> wear overalls with long sleeves, tight-fitting cuffs, gauntlet-style gloves, leather boots tied tightly around the shins & a hat | | |

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IX PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white solid below melting point, clear pale yellow liquid above melting point
Odour	rancid odour
Odour Threshold	0.05 to 0.10mg/m ³
Vapour Pressure	1mmHg / 0.13kPa (125°C / 257°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	not known – <i>not volatile</i>
Vapour Density (air = 1)	6 – theoretical – <i>does not form vapour at ambient temperature</i>
Boiling Point	268-270°C / 514-518°F
Melting Point	31.5°C / 89°F
Specific Gravity	0.893 (20°C); 0.886 (40°C)
Water Solubility	150mg/litre (20°C / 68°F); 62mg/litre ¹
Also soluble in	hydrocarbons, acetone, methanol, diethyl ether
Partition Coefficient (Octanol/H ₂ O)	4.09 (<i>calculated</i>) ^{1,2}
Viscosity	4.3centipoise (50°C / 122°F)
pH	not applicable – <i>does not dissolve or ionise in solution</i>
Molecular Weight	172grams per mole

X REACTIVITY

Dangerously Reactive With	strong oxidising agents, strong alkalis (rapid saponification with heating possible); reducing agents
Also Reactive With	non-corrosive to most metals at ambient temperature; becomes corrosive to metals (<i>including 304 stainless steel</i>) at elevated temperature
Chemical Stability	stable; will not polymerize
Decomposes in Presence of	decomposes slowly in air
Decomposition Products	apart from Hazardous Combustion Products; aldehydes, ketones and peroxides may form
Mechanical Impact	not sensitive

XI TOXICITY INFORMATION**i. ACUTE EXPOSURE**

Skin Contact	irritating if not removed within a reasonable time – particularly if skin is moist irritating in human volunteers ² , very irritating in rabbits ²
Skin Absorption	probably nil; toxic effects unlikely by this route
Eye Contact	severely irritating ² , may cause corrosive damage to eyes if not removed promptly
Inhalation	dust is irritating to nose, throat & lungs; coughing, sneezing likely
Ingestion	irritation of the mouth likely; not toxic otherwise LD ₅₀
(oral)	3320, 3730 & 15,800mg/kg (rat), 1575mg/kg (rabbit) ¹
LD ₅₀ (skin)	>5000mg/kg (rabbit)
LC ₅₀ (inhalation)	not known

ii. CHRONIC EXPOSURE

General	prolonged or repeated exposure may cause dermatitis
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

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XII ECOLOGICAL INFORMATION

Bioaccumulation	readily metabolised; cannot bioaccumulate
Biodegradation	biodegrades readily & rapidly in the presence of oxygen; 61% in 5 days; 70-100% in 30days
Abiotic Degradation	reacts with atmospheric hydroxyl (OH) radicals; estimated ½-life in air 1.4 days & 1 day ¹
Mobility in soil, water	water insoluble; moves very slowly soil & the water column
Aquatic Toxicity	
LC ₅₀ (Fish 96 hr)	54mg/litre (Oryzias latipes), 95mg/litre (Leuciscus idus – 48hr) ¹
LC ₅₀ (Crustacea, 48hr)	41mg/litre (Hyale plumosa gammarus), 65mg/litre (Daphnia magna – 24hr) ¹
EC ₅₀ (Algae, 72hr)	15mg/litre (Pseudokirchnerella subcapitata); 0.34mg/litre (Nitzschia closterium – marine diatom)
EC ₅₀ (Microorganisms)	8600mg/litre (Bifidobacterium bifido), 43mg/litre (Bacillus subtilis), 1016mg/litre (Methanotrhis sp.)

XIII DISPOSAL CONSIDERATIONS

Waste Disposal **do not flush to sewer**; incinerate in approved facility with flue gas monitoring & scrubbing; disposal in landfill may be permitted; biodigestion may be cost effective

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

XV REGULATIONS

Canada DSL	on inventory
U.S.A. TSCA	ACTIVE
Europe EINECS	on inventory

U.S.A. Regulations:

Allowable Tolerances: Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (b) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Dairy processing equipment, and food-processing equipment and utensils. Decanoic acid is included on this list. Limit: when ready for use, the end-use concentration is not to exceed 90 ppm. An exemption from the requirement of a tolerance is established for residues of decanoic acid in or on all raw agricultural commodities and in processed commodities, when such residues result from the use of decanoic acid as an antimicrobial treatment in solutions containing a diluted end-use concentration of decanoic acid (up to 170 ppm per application) on food contact surfaces such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment in restaurants, food service operations, dairies, breweries, wineries, beverage and food processing plants

FIFRA Requirements: Residues of the following chemical substances are exempted from the requirement of a tolerance when used in accordance with good manufacturing practice as ingredients in an antimicrobial pesticide formulation, provided that the substance is applied on a semi-permanent or permanent food-contact surface (other than being applied on food packaging) with adequate draining before contact with food. ... (b) The following chemical substances when used as ingredients in an antimicrobial pesticide formulation may be applied to: Dairy processing equipment, and food-processing equipment and utensils. Decanoic acid is included on this list. Limit: when ready for use, the end-use concentration is not to exceed 90 ppm. An exemption from the requirement of a tolerance is established for residues of decanoic acid in or on all raw agricultural commodities and in processed commodities, when such residues result from the use of decanoic acid as an antimicrobial treatment in solutions containing a diluted end-use concentration of decanoic acid (up to 170 ppm per application) on food contact surfaces such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment in restaurants, food service operations, dairies, breweries, beverage and food processing plants.

FDA Requirements: Capric 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 311/313: Immediate

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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

XVI OTHER INFORMATION**Date of Preparation****March 2013****Date of Revision****November 2017, February 2019 (D. Moreno)****February 2020, Section IX Odour and Appearance (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) Screening Level Hazard Characterization and Prioritization Document, N-Alkyl Carboxylic Acids, December 2008:http://www.epa.gov/hpvis/rbp/n-Alkyl%20Carboxylic%20Acids_HBP_December%202008.pdf**(2) Report of the Committee for Risk Assessment, Decanoic Acid, June 2013:**<http://echa.europa.eu/documents/10162/e7481093-c562-401c-b94b-6be854be6e16>**last page of SDS****PLEASE ENSURE THAT THIS MSDS IS GIVEN TO, AND EXPLAINED TO PEOPLE USING THIS PRODUCT.****EMERGENCY INFORMATION:****Call CHEMTREC****(800) 424-9300**