

## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

<b>Material name</b>	<b>C-698</b>
<b>Manufacturer</b>	The Procter & Gamble Company Procter & Gamble Chemicals Sharon Woods Innovation Center 11530 Reed Hartman Highway Cincinnati, Ohio 45241 1-800-477-8899 or 1-513-626-6882 PGChemMSDS.IM@pg.com CHEMTREC: 1-800-424-9300 U.S. and Canada CHEMTREC: 1-703-527-3887 For calls originating elsewhere
<b>Version #</b>	01
<b>Revision date</b>	10-14-2010
<b>CAS #</b>	142-62-1
<b>MSDS Number</b>	LC102
<b>Product Code</b>	99401571
<b>Product use</b>	Production of cutting oils, specialty soaps, and chain terminators.
<b>Synonym(s)</b>	Caproic acid

### 2. Hazards Identification

<b>Emergency overview</b>	DANGER -- CORROSIVE CONCENTRATED PRODUCT CAUSES SEVERE BURNS.  If product is heated, vaporization can occur. Eye, skin, and upper respiratory irritation/burns expected to occur.
<b>Potential health effects</b>	
<b>Eyes</b>	Liquid splash may cause severe irritation, burns, or serious permanent eye injury. Vapor exposure may cause irritation or pain.
<b>Skin</b>	Short contact (minutes) with concentrated liquid may cause severe irritation or a burn. Prolonged exposure to vapors may cause irritation.
<b>Inhalation</b>	Vapors may cause coughing and irritation of nose and throat.
<b>Ingestion</b>	Causes burns to mucous membranes.

#### Health effects of additional components

<i>OCTANOIC ACID</i>	Emergency overview: DANGER -- CORROSIVE CONCENTRATED PRODUCT CAUSES SEVERE BURNS.  If product is heated, vaporization can occur. Eye, skin, and upper respiratory irritation/burns expected to occur. Potential health effects - Eyes: Causes severe or permanent damage. Potential health effects - Skin: Causes burns. Potential health effects - Inhalation: Not applicable at ambient temperature. Vapor causes irritation. May cause coughing or difficult breathing. Potential health effects - Ingestion: Causes burns to mucous membranes.
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### 3. Composition / Information on Ingredients

Components	CAS #	Percent
HEXANOIC ACID	142-62-1	99-100

<b>Impurities</b>	<b>CAS #</b>	<b>Percent</b>
OCTANOIC ACID	124-07-2	< 1

## 4. First Aid Measures

### First aid procedures

<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash clothing separately before reuse. Destroy contaminated shoes. Get medical attention if any sensations occur.
<b>Inhalation</b>	Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Ingestion</b>	Remove material from mouth. DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to a victim who is unconscious or is having convulsions.

## 5. Fire Fighting Measures

### Extinguishing media

<b>Suitable extinguishing media</b>	SMALL FIRES: Use CO2 or dry chemical. LARGE FIRES: Use foam.
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### Protection of firefighters

<b>Specific hazards arising from the chemical</b>	Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.
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<b>Special protective equipment for fire-fighters</b>	Wear self-contained breathing apparatus and protective clothing.
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<b>Specific methods</b>	Cool containers with flooding quantities of water until well after fire is out.
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## 6. Accidental Release Measures

<b>Personal precautions</b>	An appropriate NIOSH/MSHA approved respirator should be used if a mist, vapor or dust is generated. Wear suitable protective clothing, gloves and eye/face protection. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
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<b>Environmental precautions</b>	Minimize contamination of drains, surface and ground waters.
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<b>Methods for cleaning up</b>	Absorb spillage onto inert materials (eg. sand) and collect into suitably labeled containers for disposal at an approved site. Residues and small spillages may be washed away with water and detergent. or Cover contaminated surface with soda ash or sodium bicarbonate. Mix. Flood with water and flush down drain. Wash site with sodium bicarbonate solution.
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## 7. Handling and Storage

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Since emptied containers retain product residue, follow label warnings even after container is emptied. Keep away from sources of ignition.
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<b>Storage</b>	Keep away from possible contact with incompatible substances. Store in acid resistant vessels such as stainless steel, aluminum, or steel coated with resin lining such as Lithcote LC-19 or Kanigen. Store in closed original container in a dry place. For quality reasons: Avoid elevated temperatures.
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<b>Specific uses</b>	Follow bulk handling and storage procedures as noted above.
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## 8. Exposure Controls / Personal Protection

<b>Engineering controls</b>	Local exhaust is recommended. Mechanical - may be necessary if working at elevated temperatures or in enclosed areas.
<b>Personal protective equipment</b>	
<b>General</b>	Observe good industrial hygiene practices. Avoid breathing (heated) vapors.  Boots. Apron. Eye wash fountain and emergency showers are recommended. Wear suitable protective clothing.
<b>Eye / face protection</b>	Goggles or face shield with goggles, dependent upon potential exposure.
<b>Skin protection</b>	Rubber or plastic gloves. Dependent upon degree of potential exposure, additional personal protective equipment may be required, such as chemical boots and full protective clothing.
<b>Respiratory protection</b>	An appropriate NIOSH/MSHA approved air-purifying respirator should be used if a mist or vapor is generated. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. <b>WARNING:</b> Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
<b>Environmental exposure controls</b>	Contact Procter and Gamble for specific Community information.

## 9. Physical & Chemical Properties

<b>Appearance</b>	Not available.
<b>Color</b>	Water white to Yellow.
<b>Odor</b>	Sharp, Musty, Rancid.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>pH</b>	Not available.
<b>Melting point</b>	Not available.
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	402 °F (205.6 °C) @ 760 mm Hg (101.3kPa)
<b>Flash point</b>	230 °F (110 °C) Pensky-Martens Closed Cup
<b>Evaporation rate</b>	< 0.01
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	< 1 mm Hg @ 72F (22 C)
<b>Vapor density</b>	4
<b>Specific gravity</b>	Not available.
<b>Relative density</b>	0.93 @ 20/20 C
<b>Solubility (water)</b>	1 % @ 72 F (22 C)
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>VOC</b>	Not available.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions.
<b>Materials to avoid</b>	Strong alkalis.
<b>Hazardous decomposition products</b>	Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. Toxicological Information

### Toxicological data

#### Product

HEXANOIC ACID (142-62-1)

#### Test Results

Dermal MLD Rabbit: 10 mg 24.00 hours Open  
Other Rabbit: 695 ug Eye-SEV  
Acute Dermal LD50 Rabbit: 630 mg/kg  
Acute Oral LD50 Rat: 3000 mg/kg  
Acute Oral LD50 Rat: 3 g/kg

#### Impurities

OCTANOIC ACID (124-07-2)

#### Test Results

Acute Dermal LD50 Rabbit: > 5 g/kg  
Acute Oral LD50 Rat: > 10 g/kg

## 12. Ecological Information

### Ecotoxicological data

#### Product

HEXANOIC ACID (142-62-1)

#### Test Results

LC50 Fathead minnow (*Pimephales promelas*): 88 mg/l 96.00 hours  
LC50 Gammarus (*Hyale plumulosa*): 235 mg/l 96.00 hours  
LC50 Red killifish (*Oryzias latipes*): 80 mg/l in freshwater  
LC50 Red killifish (*Oryzias latipes*): 235 mg/l in seawater  
LC50 Water flea (*Daphnia magna*): 22 mg/l 24.00 hours

#### Impurities

OCTANOIC ACID (124-07-2)

#### Test Results

EC50 Green algae (*Nitzschia closterium*): 144 mg/l 72.00 hours  
EC50 Water flea (*Daphnia magna*): 550 mg/l 24.00 hours  
LC0 Red killifish (*Oryzias latipes*): 57 mg/l 96.00 hours in freshwater  
LC50 Bluegill (*Lepomis macrochirus*): 39.9 mg/l 96.00 hours  
LC50 Ide, silver or golden orfe (*Leuciscus idus*): 173 mg/l 48.00 hours  
LC50 Red killifish (*Oryzias latipes*): 105 mg/l 96.00 hours in seawater

## 13. Disposal Considerations

#### Disposal instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.  
Do not dispose of via sinks, drains or into the immediate environment.

#### Contaminated packaging

Observe local regulations.

## 14. Transport Information

### DOT

#### Basic shipping requirements:

<b>UN number</b>	UN2829
<b>Proper shipping name</b>	Caproic acid (Caproic acid)
<b>Hazard class</b>	8
<b>Packing group</b>	III
<b>Additional information:</b>	
<b>Special provisions</b>	IB3, T4, TP1
<b>Packaging exceptions</b>	154
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	241
<b>ERG number</b>	153
<b>Hazard ID</b>	80



DOT

## 15. Regulatory Information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

### CERCLA (Superfund) reportable quantity

None

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - Yes

#### Section 302 extremely hazardous substance

No

#### Section 311 hazardous chemical

No

### Inventory status

#### Country(s) or region

#### Inventory name

#### On inventory (yes/no)\*

Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

### State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

#### US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Contains no California Prop 65 chemicals.

#### US - New Jersey Community RTK (EHS Survey): Reportable threshold

#### US - Pennsylvania RTK - Hazardous Substances: Listed substance

HEXANOIC ACID (CAS 142-62-1)

Listed.

## 16. Other Information

### HMIS® ratings

Health: 3  
Flammability: 1  
Physical hazard: 2

### NFPA ratings

Health: 3  
Flammability: 1  
Instability: 0

### Bibliography

Sax's Dangerous Properties of Industrial Materials, 9th Ed. Richard J. Lewis.

V. R. Mattson, et al, "Acute Toxicity of Selected Organic Compounds to Fathead Minnows," EPA-600/3-76-097, Oct. 1976.

K. Verschueren. Handbook of Environmental Data on Organic Chemicals, 3rd Ed. 1998.

Acute Toxicity and Irritation Studies on a Series of Fatty Acids. J. Am. Oil Chem. Soc., 56(1979), p.760A.

BIBRA toxicity profile (1988) n-Octanoic acid.

### Disclaimer

The submission of the MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied are for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific product designated herein, and does not relate to use in combination with any other material of any other process. Procter & Gamble assumes no responsibility for injury to the recipient or third persons, or for any damage to any property resulting from misuse of the controlled product.

### Issue date

10-14-2010