

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	CO-899
Version #	03
Revision date	05-11-2011
CAS #	111-87-5
MSDS Number	ALCH451
Product use	Production of alkyl amines, aluminum rolling lubricants, tertiary amines, cosmetics, ethoxylates, halides/mercaptans, polymerization stabilizers, and sulfation.
Synonym(s)	Caprylic alcohol
Manufacturer	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

2. Hazards Identification

Emergency overview	WARNING Combustible liquid and vapor.
Potential health effects	
Routes of exposure	Ingestion. Skin contact. Eye contact.
Skin	May cause skin irritation.
Inhalation	High vapor concentrations are irritating to the eyes, nose, throat, and lungs.
Ingestion	May cause irritation of the gastrointestinal tract.
Signs and symptoms	Causes severe eye irritation.
Specific hazards	Combustible liquid and vapor. May be ignited by friction, heat, spark or flames. Containers may explode when heated. May travel considerable distance to source of ignition and flash back. High vapor concentrations are irritating to the eyes, nose, throat, and lungs. Irritating to eyes.

3. Composition / Information on Ingredients

Components	CAS #	Percent
1-OCTANOL	111-87-5	95-99
Additional components	CAS #	Percent
1-DECANOL	112-30-1	<= 5
HEXAN-1-OL	111-27-3	<= 1

Composition comments Occupational Exposure Limits for impurities are listed in Section 8.

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact

Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse. Wash off with soap and water.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Ingestion

Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor/physician. If ingestion of a large amount does occur, call a poison control center immediately.

Notes to physician

Symptoms may be delayed.

5. Fire Fighting Measures

Flammable properties

Combustible by OSHA criteria. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media

Water. Foam. Dry powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Special protective equipment for fire-fighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods

In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

Methods for containment

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.

Never return spills in original containers for re-use.

7. Handling and Storage**Handling**

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Avoid release to the environment.

Storage

The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Keep container tightly closed. Keep out of the reach of children.

8. Exposure Controls / Personal Protection**Occupational exposure limits****US. Workplace Environmental Exposure Level (WEEL) Guides**

Material	Type	Value
1-OCTANOL (111-87-5)	TWA	50.0000 ppm 265.0000 mg/m3

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment**Eye / face protection**

Chemical goggles are recommended.

Skin protection

Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Wear suitable protective clothing. Wear protective gloves.

Respiratory protection

No personal respiratory protective equipment normally required.

General hygiene considerations

When using do not smoke. Do not get in eyes. Do not get this material in contact with skin. Wash hands after handling and before eating. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties**Appearance**

Liquid.

Physical state

Liquid.

Form

Not available.

Color

Colorless.

Odor

Fishy Alcoholic.

Odor threshold

Not available.

pH

Not available.

Vapor pressure

0.071 mm Hg estimated @ 75 F (24 C)

Vapor density

4.5

Boiling point

399.2 - 460.4 °F (204 - 237.8 °C) at 760 mm Hg (101.3kPa)

Solubility (water)

<= 0.05 %

Relative density

0.83 at 25/25 C

Flash point

177.8 - 195.8 °F (81 - 91 °C) Pensky-Martens Closed Cup

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume

Not available.

Auto-ignition temperature

523.4 °F (273 °C)

Other data

Flammability class	Combustible IIIA estimated
Flash point class	Combustible IIIA

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	Carbon monoxide. Toxic gas. Complete combustion forms carbon dioxide and water vapor. Partial combustion forms also carbon monoxide, soot, aldehydes and ketones.
Hazardous polymerization	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product

Test Results

1-OCTANOL (111-87-5)

Acute Dermal LD50 Rabbit: 2000 - 4000 mg/kg Scientific Assoc, 1976; Rel 2
Acute Dermal LD50 Rat: > 5000 mg/kg Henkel, 1981; Rel 2

Additional components

Test Results

HEXAN-1-OL (111-27-3)

Acute Dermal LD50 Rabbit: 2530 mg/kg
Acute Inhalation LC50 Mouse: > 21 mg/l 1.00 Hours
Acute Oral LD50 Mouse: 1950 mg/kg
Acute Oral LD50 Rat: 720 mg/kg

1-DECANOL (112-30-1)

Acute Other LD50 Mouse: 103 mg/kg
Dermal Human: 4.00 hours Significantly less irritating than 20% Sodium Lauryl Sulfate (positive control).
Dermal Rabbit: 83 mg Severe eye irritation.
Dermal Rabbit: OECD Test Guidelines 404, PII=3.33.
Acute Dermal LD50 Rabbit: 3560 mg/kg
Acute Oral LD50 Rat: Practically non-toxic by acute oral route.

Sensitization Not available.

Chronic effects Not available.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin corrosion/irritation Not available.

Epidemiology Not available.

Mutagenicity Not available.

Neurological effects Not available.

Reproductive effects Not available.

Teratogenicity Not available.

12. Ecological Information

Ecotoxicological data

Product

Test Results

1-OCTANOL (111-87-5)

LC50 Fathead minnow (Pimephales promelas): 11.4 - 12.9 mg/l
96.00 Hours

Additional components

Test Results

HEXAN-1-OL (111-27-3)

LC50 Fathead minnow (Pimephales promelas): 89.7 - 106 mg/l
96.00 hours

1-DECANOL (112-30-1)

EC50 Water flea (Daphnia magna): 11 mg/l 24.00 hours
LC50 Bleak (Alburnus alburnus): 7.2 mg/l 96.00 hours
LC50 Fathead minnow (Pimephales promelas): 2.3 mg/l 96.00 hours

Additional components

Test Results

LC50 Fathead minnow (*Pimephales promelas*): 2.4 mg/l 96.00 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.
Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

13. Disposal Considerations

Disposal instructions Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Basic shipping requirements:

Proper shipping name	Combustible liquid, n.o.s. (OCTANOL)
Hazard class	Comb liq
Subsidiary hazard class	None
UN number	NA1993
Packing group	III
Additional information:	
Special provisions	IB3, T1, T4, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	241
ERG number	128



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.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))

Not regulated

DEA Essential Chemical Code Number

Not regulated

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated

DEA Exempt Chemical Mixtures Code Number

Not regulated

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

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
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
Switzerland	Switzerland FOPH	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 - New Jersey Community RTK (EHS Survey): Reportable threshold**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

1-DECANOL (CAS 112-30-1)	Listed.
1-OCTANOL (CAS 111-87-5)	Listed.
HEXAN-1-OL (CAS 111-27-3)	Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings Health: 1
 Flammability: 2
 Physical hazard: 0

NFPA ratings Health: 1
 Flammability: 2
 Instability: 0

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.

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**This data sheet contains
changes from the previous
version in section(s):**

Product and Company Identification: Product and Company Identification
Hazards Identification: Emergency overview
Hazards Identification: Eyes
Hazards Identification: Skin
Hazards Identification: Inhalation
Hazards Identification: Ingestion
Hazards Identification: Specific hazards
Hazards Identification: Signs and symptoms
Hazards Identification: Potential environmental effects
Hazards Identification: OSHA regulatory status
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data
Regulatory Information: US federal regulations
REACH: Legal Entity Assignment