



COCO CHEM

United Coconut Chemicals, Inc.
A member of the CIIF Group of Companies



Certificate No. Q 5405

SAFETY DATA SHEET

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity:

C16-C18 FATTY ALCOHOL

Manufacturer:

Head Office

UNITED COCONUT CHEMICALS, INC.
17/F UCPB Building, Makati Avenue
1200 Makati City, Metro Manila, Philippines
Telephone Number: 63 (2) 816-0371 to 75
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Plant

UNITED COCONUT CHEMICALS, INC.
CAIP, Aplaya, Bauan Batangas
4201 Philippines
Telephone Number: 63 (43) 727-1511 to 13
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Emergency Telephone:

63 (2) 816-0371 to 75

Product Use:

- Foam inhibitor in formulations of foam controlled detergent powder based upon non-ionic surfactants.
- Dermatophilic consistency giving factor for cosmetics sticks like lipstick (e.g. control of melting temperature), eye liners, etc.
- Consistency giving factor for hand lotion, bath oils, shaving creams, ointment, creams and emulsion of the w/o o/w types. Combinations with approximately 10% w/w fatty alcohol polyglycol ether or alcohol sulfate are self-emulsifying cream and ointment bases.
- Consistency giving factor and soaking retarder in syndel soap bars, e.g. based upon fatty alcohol sulfates and sulfosuccinates.
- Lubricant to plastic – small additions to PVC not containing plasticizers improve flow characteristics, reduce sticking to the processing equipment, and improve gloss and smoothness.
- Surfactant intermediate/raw material – ethoxylation and sulfation
- Evaporation control agents for water reservoirs by forming monolayers on water surfaces.

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Approximate Percent by Weight	CAS Number	EINECS
<i>C16-C18 alcohol</i>	<i>100 %</i>	<i>67762-27-0</i>	<i>267-008-6</i>

Trade Names :

PHILCOHOL 1618, PHILCOHOL 8670, PHILCOHOL 1650

Synonyms:

Cetearyl Alcohol, Cetostearyl Alcohol, Cetyl Stearyl Alcohol

SECTION 3. HAZARDS IDENTIFICATION

European Hazard Classification: *This product is not classified as dangerous according to Directive 67/548/EEC.*

Emergency Overview: *Potential combustible dust if flaked or powdered. Dust generated from flaked product will be combustible at sufficient concentration.*

Potential Health Effects:

Eye *Accidental exposure to the eyes may produce a mild but transient irritation.*

Skin *Prolonged exposure may cause slight transient irritation. Heated product may cause thermal burns if contacted.*

Inhalation *No harmful effects expected with normal use. Dusting may result slight irritation.*

Ingestion *May cause gastrointestinal irritation.*

Physical / Chemical Hazards: *Potential combustible dust if flaked or powdered. Dust generated from flaked product will be combustible at sufficient concentration.*

Potential Environmental Effects: *None identified*

See sections 7, 11 and 12 for further information.

SECTION 4. FIRST AID MEASURES

Eye Contact: *Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.*

Skin Contact: *Wash affected area with soap and water. Remove contaminated clothing. If irritation persists, get medical attention.*

Inhalation: *Remove to fresh air. If victim has stopped breathing, give artificial respiration. Get medical attention immediately.*

Ingestion: *Get medical attention immediately.*

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing Media:	<i>Small fires: carbon dioxide, dry chemical, water fog, regular foam Large fires: Foam</i>
Unsuitable Extinguishing Media:	<i>Water spray may be ineffective on fire.</i>
Flash Point and Method:	<i>Approx. 170°C (TCC Method – Tagliabue Closed Cup)</i>
Upper and Lower Flammable Unit:	<i>Not available</i>
Auto-ignition temperature:	<i>Not available</i>
Special Protective Equipment:	<i>Wear self-contained breathing apparatus and full protective clothing.</i>
Exposure Hazards:	<i>Decomposition may produce carbon dioxide and carbon monoxide.</i>

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	<i>Wear suitable gloves and eye/face protection. Wear an appropriate NIOSH / MSHA approved respirator if mist or vapor is generated.</i>
Environmental Precautions:	<i>Dike flow of spilled material using soil or sandbags to minimize contamination of drains, surface and ground waters.</i>
Procedures for Spill / Leak Clean-up:	<i>Ventilate area and eliminate all ignition sources. Contain spill. Absorb with sand, dry earth or other non-combustible material. Collect spilled material in appropriate container for disposal.</i>

Refer to Section 8 for additional personal protective information.

Refer to Section 13 for disposal considerations.

SECTION 7. HANDLING AND STORAGE

Handling:	<i>Handle in accordance with good hygiene and safety procedures. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Wearing of safety respiratory gadgets is recommended during handling particularly at elevated temperature. Since empty containers contain product residue, follow all hazard warnings and precautions even after container is emptied. Keep away from sources of ignition.</i>
Storage:	<i>Store in common inert storage vessels such as stainless steel, zinc or phenolic-lined compartments. Store in a cool dry place. Storage condition should not be higher than 20°C above its solidification point. For flaked fatty alcohol, storage condition should not be higher than 20°C above its solidification point. During prolonged storage, purging and blanketing with nitrogen to avoid oxidative degradation is recommended.</i>

Keep away from possible contact with incompatible substances.

Keep away from heat, sparks or open flames.

Refer to Section 6 for clean-up of spillages.

Refer to Section 13 for disposal considerations.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Precautions:	<i>Good industrial hygiene should be followed.</i>
Engineering Control:	<i>Ventilation: Local exhaust – preferred Mechanical – may be necessary if working at elevated temperature or in enclosed area.</i>
Exposure Limit Values:	<i>Not established.</i>
Occupational Exposure Controls:	
Respiratory protection	<i>None required for normal usage, although a NIOSH / MSHA approved respirator is recommended if dust is generated.</i>
Skin Protection	<i>Rubber or plastic gloves. Dependent upon degree of potential exposure, additional protective equipment may be required, such as chemical boots and full protective clothing.</i>
Eye protection	<i>Goggles or face shield with goggles, dependent upon potential exposure.</i>
Other Controls	<i>Have eyebath and safety shower nearby.</i>
Environmental Exposure Controls	<i>Contact United Coconut Chemicals, Incorporated for specific Community information.</i>

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: <i>Waxy white solid (flakes or beads)</i>	Odor: <i>Fresh waxy odor</i>	Vapor Pressure: <i>< 1 mm Hg at 22°C</i>	Titer: <i>49 – 54°C</i>
Density: <i>0.81 g/cm³ at 60°C</i>	Boiling Point: <i>Approx. > 270°C</i>	Water Solubility: <i>Negligible at 20°C</i>	Fat Solubility: <i>Not available</i>
Flashpoint: <i>Approx. 170°C (TCC method)</i>	Flammability: <i>Non-flammable</i>	Evaporation Rate: <i>Not available</i>	Explosive Properties: <i>Not available</i>
Oxidizing Properties: <i>Not available</i>	Partition coefficient: <i>Log Pow: 6.65 Method: HPLC Test Substance: Hexadecanol was tested</i>	<i>Log Pow: 7.19 Method: HPLC Test Substance: Octadecanol was tested</i>	

SECTION 10. STABILITY AND REACTIVITY

Stability:	<i>Stable at normal temperature and pressure.</i>
Incompatible Materials:	<i>Strong oxidizing agents</i>
Conditions to Avoid:	<i>Avoid heat, flame and other sources of ignition.</i> <i>Avoid contact with incompatible material.</i>
Hazardous Decomposition Products:	<i>Decomposition may produce carbon dioxide and carbon monoxide.</i>
Hazardous Polymerization:	<i>Will not occur.</i>

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity

	<u>Species</u>	<u>Endpoint</u>	<u>Value (mg/kg BW)</u>	<u>Reference</u>
1.	<i>Rat</i>	<i>LD₅₀</i>	<i>>= 10000</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 36</i>
2.	<i>Mouse</i>	<i>LD₅₀</i>	<i>> 5000</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 37</i>
3.	<i>Mouse</i>	<i>LD₅₀</i>	<i>> 10000</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 37</i>

Acute Inhalation Toxicity *No data available.*

Acute Dermal Toxicity

	<u>Species</u>	<u>Endpoint</u>	<u>Value (mg/kg BW)</u>	<u>Reference</u>
1.	<i>Rabbit</i>	<i>LD₅₀</i>	<i>>= 8000</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 38</i>

Corrosiveness and Irritation A. Skin Irritation

	<u>Species</u>	<u>Endpoint</u>	<u>Result</u>	<u>Reference</u>
1.	<i>Rabbit</i>	<i>4h</i>	<i>Slightly irritating</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 39</i>
2.	<i>Rabbit</i>	<i>24h</i>	<i>Slightly irritating</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 39</i>
3.	<i>Rabbit</i>		<i>Not irritating</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 40</i>
4.	<i>Rabbit</i>		<i>Slightly irritating</i>	<i>Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 40</i>

B. Eye Irritation

<u>Species</u>	<u>Result</u>	<u>Reference</u>
1. Rabbit	Slightly irritating	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 41
2. Rabbit	Slightly irritating	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 42
3. Rabbit	Slightly irritating	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 43

C. Sensitization

<u>Species</u>	<u>Result</u>	<u>Reference</u>
1. Guinea pig	Not sensitizing	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 43
2. Guinea pig	Not sensitizing	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 44
3. Guinea pig	Not sensitizing	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 45
4. Human	Not sensitizing	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD -ROM 2000 Edition, p. 44

D. Repeated Dose Toxicity

<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/kg)</u>	<u>Reference</u>
1. rat	28d	>1000	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 45

E. Carcinogenicity *No available data*

F. Toxicity to Reproduction *No available data*

G. Teratogenicity *No available data*

H. Other Relevant Information *No available data*

<u>Species</u>	<u>Result (mg/kg)</u>	<u>Reference</u>
1. Guinea pig	Not a photosensitizer	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 49

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity:

A. Acute / Prolonged Toxicity to Fish

	<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/l)</u>	<u>Reference</u>
1.	<i>Brachydanio rerio</i>	96h LC0	9950	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 21
2.	<i>Oncorhynchus kisutch</i> (fresh water fish)	24h LC0	>10	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 21
3.	<i>Oncorhynchus tshawytscha</i> (fresh water fish)	24h LC0	>10	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 21
4.	<i>Pimephales Promelad</i>	5d LC0	500	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 22
5.	<i>Ptychocheilus oregonensis</i>	24h LC0	>10	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 22
6.	<i>L. idus</i>	48h LC50	>10000 (.LoS)	Henkel 1999o, per APAG report on Environmental Classification & labeling of C12/13 alcohols and associated cuts and blends in the light of new ecotoxicity data

B. Acute Toxicity to Aquatic Invertebrates

	<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/l)</u>	<u>Reference</u>
1.	<i>Daphnia magna</i>	48h EC0 48h EC50 48h EC100	980 1666 2940	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 23
2.	<i>Daphnia magna</i>	48h EC0 48h EC50 48h EC100	1000 1700 3000	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 23
3.	<i>Daphnia magna</i>	48h EC50	7 ⁿ	Henkel 1995, per APAG report on Environmental Classification & labeling of C12/13 alcohols and associated cuts and blends in the light of new ecotoxicity data

Where n = based on nominal concentrations

C. Acute Toxicity to Aquatic Plants e.g. Algae

	<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/l)</u>	<u>Reference</u>
1.	<i>Scenedesmus subspicatus</i>	96h EC10 96h EC50	25.5 235	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 24
2.	<i>Scenedesmus subspicatus</i>	96h EC0 96h EC50	10 690	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 24

D. Toxicity to Microorganisms e.g. Bacteria

<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/l)</u>	<u>Reference</u>
1. <i>Pseudomonas putida</i> (bacteria)	30m <i>EC0</i>	9950	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 25
2. <i>Aspergillus niger</i> (fungi)	5d	No anti-fungal up to 10 000 mg/l	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 25

E. Chronic Toxicity to Aquatic Invertebrates

<u>Species</u>	<u>Endpoint</u>	<u>Result (mg/l)</u>	<u>Reference</u>
1. <i>Daphnia magna</i>	21d NOEC 21d LOEC	0.98 2.94	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 31

Environmental Fate:

Photodegradation No data available.

Stability in Water No data available.

Stability in Soil No data available.

Distribution / Mobility

1. Hexadecanol

Mass Distribution by Environmental Compartment via Fugacity Level III Model

Air: 0.762%
Water: 8.75%
Soil: 29.9%
Sediment: 60.6%

2. Octadecanol

Mass Distribution by Environmental Compartment via Fugacity Level III Model

Air: 0.63%
Water: 7.35%
Soil: 28.7%
Sediment: 63.3%

Mode of Degradation

A. Biodegradation

<u>Inoculum</u>	<u>Concentration (mg/l)</u>	<u>Degradation</u>	<u>Reference</u>
1. Activated sludge (domestic) Type: aerobic	50	56 - 62% after 28 day	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 17
2. Activated sludge (domestic) Type: aerobic	50	81 - 100% after 28 day	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 17

3. Municipal sewage Type: aerobic	50	73 - 82% after 30 day	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 17
4. Sewage treatment plant effluent Type: aerobic	50	73 - 82% after 30 day	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 17

B. Bioaccumulation

<u>Inoculum</u>	<u>Concentration (ug/l)</u>	<u>Result</u>	<u>Reference</u>
1. Activated sludge	50	5 day BCF = 1300	Henkel KGaA Duesseldorf, per IUCLID Data Set for C16-C18 Alcohols, IUCLID CD- ROM 2000 Edition, p. 19

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal is to be performed in compliance with all federal, state / provincial and local regulations. Do not dispose via sinks, drains or into the immediate environment.

SECTION 14. TRANSPORT INFORMATION

Not classified in DOT

- RID (Carriage of Dangerous Goods by Rail)
- ADR (International Carriage of Dangerous Goods by Road)
- IMDG (International Maritime Dangerous Goods)
- ICAO (International Civil Organisation)
- IATA (International Air Transport Association)

SECTION 15. REGULATORY INFORMATION

Inventory Status:

Philippines Inventory of Chemicals and Chemical Substances (PICCS 2000)	Listed
European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed
Canada – Domestic Substances List (DSL)	Listed
Australia – Australian Inventory of Chemical Substances (AICS)	Listed
California Proposition 65 Components	None
2001 CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) Priority List of Hazardous Substance	Not Listed
Federation of Oils, Seeds & Fats Association (FOSFA) International List of Acceptable Previous Cargoes	Listed
Merchant Shipping Regulations 1990 (Control of Pollution by Noxious Liquid Substances in Bulk)	Listed under Non-Polluting Liquid Substances Carried in Bulk

EC Labeling and Classification:

This product is not classified as dangerous according to Directive 67/548/EEC.

Canada

Hazardous Ingredients – WHMIS (Canadian Workplace Hazardous Materials Information System)

This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act.

SECTION 16. OTHER INFORMATION

The information in this Material Safety Data Sheet is based on the following reference:

- *“Toxicology of Fatty Alcohols and Their Derivatives”, Fatty Alcohols Raw Materials, Methods & Uses (1982), p. 170-171.*
- *“Higher Aliphatic Alcohols”, Encyclopedia of Chemical Technology, 3rd Edition, volume 1, p.727.*
- *“Cetearyl Alcohol”, Handbook of Industrial Surfactants, compiled by Michael and Irene Ash, 2nd Ed., p. 1461-1462.*
- *“Hexadecanol”, Philippine Inventory of Chemicals and Chemical Substances, 2000 Version.*
- *“Ecotoxicity”, Alcohols, C16-18 IUCLID Data Set, Year 2000 CD ROM Edition by European Commission - European Chemical Bureau, pp. 21-30.*
- *“Toxicity”, Alcohols, C16-18 IUCLID Data Set, Year 2000 CD ROM Edition by European Commission - European Chemical Bureau, pp. 36-49.*
- *“Environmental Fate”, Alcohols, C16-18 IUCLID Data Set, Year 2000 CD ROM Edition by European Commission - European Chemical Bureau, pp. 16-19.*
- *OECD SIDS Dossier on 1-Octadecanol. 1993. Environmental Protection Agency, Denmark. 6 June 1993.*

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