



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION

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TRADE NAMES: **CETYL ALCOHOL NF, 95%**
CHEMICAL IDENTITY: C₁₈ FATTY ALCOHOL (1-HEXADECANOL)
CAS #: 36653-82-4

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

<u>Components</u>	<u>CAS Number</u>	<u>Weight %</u>
1- Tetradecanol	112-72-1	0.7-3
1- Hexadecanol	36653-82-4	95-97.4
1- Octadecanol	112-92-5	0.8-3

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview

Solid white flakes. Colorless liquid when melted. Sweet, pungent odor. HEALTH HAZARD: In high concentrations, vapors may cause irritation of eyes, nose, and throat, dizziness and headache.

SPILL PRECAUTIONS: Slippery, may cause falls if walked on.

Potential Health Effects

EYES: Irritation may occur with exposure to vapors.

SKIN: Repeated or prolonged contact can cause redness, irritation, and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.

INHALATION: In high concentrations, vapor may cause irritation of the nose and throat, dizziness, and headache.

INGESTION: Prolonged exposure may lead to changes in liver function.

(See Section 11 for Toxicological Information)

SECTION 4 – FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

SKIN: Remove contaminated clothing. Wash skin with soap and plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration and seek medical attention immediately. Oxygen should only be administered by trained personnel.

INGESTION: If swallowed, call a physician immediately ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.



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SECTION 5 – FIRE FIGHTING MEASURES

Flammable Properties

Flash Point / Method:	300 Deg. F (149 Deg. C) / PM
Auto-ignition Temperature:	485 Deg. F (252 Deg. C)
Flammable Limits In Air % By Volume:	Lower: Approximately 0.5 Upper: Approximately 3.0
Fire And Explosion Hazard:	None expected
Extinguishing Media:	Water spray, fog or alcohol compatible foam is recommended
Fire Fighting Instructions:	Cool exposed equipment with water spray until well after fire is out. Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK: Contain the spill if possible. Material will solidify (freeze) at ambient temperatures and may be picked up mechanically. Dispose of only in accordance with local, state, and federal regulations.

SPILL PRECAUTIONS: Slippery, may cause falls if waked on.

CERCLA HAZARDOUS SUBSTANCE:

<u>Component</u>	<u>CERCLA RO</u>	<u>Maximum Wt. %</u>
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Contains no chemicals on the CERCLA Hazardous Substance List.

SECTION 7 – HANDLING AND STORAGE

ELECTROSTATIC ACCUMMULATION HAZARD:	Precautions should be taken to prevent electrostatic discharge
USUAL SHIPPING CONTAINERS:	Bags
STORAGE / TRANSPORT TEMPERATURE:	Ambient (for bags)
STORAGE / TRANSPORT PRESSURE:	Ambient
LOAD / UNLOAD TEMPERATURE:	140 – 160 Deg. F (60 – 71 Deg. C) (for rail and truck)
STORAGE AND HANDLING MATERIALS:	
TANKS:	Carbon steel with effective moisture control, and carbon steel coated with baked phenolic.
NOTE:	Any moisture may cause rusting of carbon steel. Product contamination may result.
SPECIAL PRECAUTIONS:	Inert gas blanket and breathing system needed to maintain color stability. Use dry inert gas having at least -40 Deg. F dew point.



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SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

EYES: When contact with liquid is possible, use a face shield. Otherwise use safety glasses with side shields or goggles.
SKIN: Full protective clothing, chemical boots, and chemical gloves when contact with liquid is possible.
RESPIRATORY PROTECTION: Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Select the appropriate NIOSH-approved organic vapor air-purifying respirator, self-contained breathing apparatus, or air-supplied respirators in situations where there may be potential for overexposure.

Exposure Guidelines

Component

OSHA PEL

ACGIH TLV

None established.

PEL= Permissible Exposure Limits

TLV= Threshold Limit Value

EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)

STEL= Short Term Exposure Limit (15 min.)

Carcinogenicity

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid white flakes. Colorless liquid when melted
Odor: Sweet, pungent odor
Vapor Pressure (mm Hg.): <0.01 @ 100 Deg. F / 38 Deg. C
Vapor Density (Air = 1): Not applicable
Solubility in Water: Nil
Viscosity: 18 cSt @ 120 Deg. F / 49 Deg. C
Physical State: Solid at room temperature
Boiling Point: 626 – 631 Deg. F (330 – 333 Deg. C)
Melting Point: 113 – 122 Deg. F (45 – 50 Deg. C)
Specific Gravity (H₂O=1): 0.813 @ 60 Deg. F / 15 Deg. C

SECTION 10 – STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High temperatures.
INCOMPATIBILITY WITH OTHER MATERIALS: Can react with strong oxidizers, inorganic acids, and halogens.
HAZARDOUS DECOMPOSITION PRODUCTS: None expected.
HAZARDOUS POLYMERIZATION: Should not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

EYES: No specific data available for this product.
SKIN: Minimum lethal dose reported in literature in rabbits. 2.6 g/k.
INHALATION: Rats exposed to 3.2 mg/l for 8 hours per day for 10 days showed only hyperactivity.
INGESTION: Acute Oral LD₅₀ (Rat): > 8 g/kg. Beagle dogs fed up to 3 % ALFOL 16 in the diet for 13 weeks exhibited no observed effects other than elevated liver enzyme (transaminase) levels.



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SECTION 12 – ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: 1-Hexadecanol products no observable toxic effects on fathead minnows at concentrations as high as 500 ppm. The LC50 of 1-hexadecanol would be expected to be greater than its water soluble fraction.
CHEMICAL FATE INFORMATION: 1-Hexadecanol is biodegradable (80-97% of theoretical CO2 (TCO2) after 20-48 days in an inoculated medium). 1-Hexadecanol would not be expected to accumulate in the environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

SPECIAL INSTRUCTIONS: Contain the spill if possible. Material will solidify (freeze) at ambient temperatures and may be picked up mechanically. Dispose of only in accordance with local, state, and federal regulations.
WASTE CLASSIFICATION: Any unused product or empty containers may be disposed of as non-hazardous in accordance with state and federal requirements. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification to hazardous. If the resulting material is determined to be hazardous, please dispose in accordance with state and federal (40 CFR 264) hazardous waste regulations.
EMPTY CONTAINERS: Empty containers retain product residue (liquid and/or vapor) and can be dangerous. **DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.** Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of.

(See Section 6 for CERCLA Reporting Requirements)

SECTION 14 – TRANSPORT INFORMATION

DOT DESCRIPTION: This product is not a hazardous material according to DOT regulations for ground transportation.
ICAO / IATA DESCRIPTION: This product is not a dangerous good as defined by IATA for air transportation.
IMO DESCRIPTION (IMDG CODE): This product is not a dangerous good as defined by IMO in the IMDG Code for water transportation.

SECTION 15 – REGULATORY INFORMATION

U.S. Federal Regulations

OSHA HAZARD COMMUNICATION STANDARD CLASSIFICATION: Nonhazardous as defined by the OSHA Hazard Communication Standard.

TSCA INVENTORY LISTING:

<u>Component</u>	<u>CAS Number</u>
1-Hexadecanol	36653-82-4

SARA 302 STATUS:

<u>Component</u>	<u>CAS Number</u>	<u>Maximum Wt. %</u>
Contains no chemicals subject to SARA 302 reporting.		

SARA 311/312 CLASSIFICATION: Nonhazardous according to SARA 311/312.

<u>Component</u>	<u>CAS Number</u>	<u>Maximum Wt. %</u>
Contains no chemicals subject to SARA 313 reporting.		

(See Section 6 for CERCLA Reporting Requirements.)



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SECTION 15 – REGULATORY INFORMATION continued

International Regulations

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION: This material is not a controlled product as defined by Canada's Workplace Hazardous Materials Information System (WHMIS).

CANADIAN DOMESTIC SUBSTANCE LIST (DSL) INVENTORY LISTING:

<u>Chemical Name</u>	<u>CAS Number</u>
1-Hexadecanol	36653-82-4

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS) LISTING:

<u>Chemical Name</u>	<u>EINECS Number</u>
1-Hexadecanol	2531490

JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) INVENTORY LISTING:

<u>Chemical Name</u>	<u>Section Structure #</u>
Alkanol (C5-38)	2-237

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) LISTING:

<u>Chemical Name</u>	<u>CAS Number</u>
1-Hexadecanol	36653-82-4

State Regulations

CALIFORNIA SAFE DRINKING WATER ACT (PROP 65) LISTING:

<u>Component</u>	<u>CAS Number</u>
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** No ingredients listed in this section **

Based on current analytical information, this product contains no detectable quantities of chemicals on the California Proposition 65 list.

SECTION 16 – OTHER INFORMATION

<u>Hazard Ratings</u>	<u>NFPA</u>	<u>HMIS</u>
HEALTH:	1	1
FLAMMABILITY:	1	1
REACTIVITY:	0	0

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