Material Safety Data Sheet

MSDS# 15-3246

Section 1. Chemical Product and Company Identification

Product name **ARMOSTAT™ 310**

Material Uses : Surfactant.

Supplier/ Manufacturer

AKZO NOBEL SURFACE CHEMISTRY LLC
525 West Van Buren
Chicago, IL 60607-3823
www.surfactants.akzonobel.com

AKZO NOBEL CHEMICALS LTD.
1 City Centre Drive, Suite 318
Mississauga, Ontario L5B 1M2
Canada

In Case of Emergency

CHEMTREC:	800-424-9300
CANUTEC:	613-996-6666
Medical/Handling:	914-693-6946
Product/Technical:	800-906-9977

Section 2. Hazards Identification

Physical State Solid.

Color Amber.

Odor Amine like.

Emergency Overview

DANGER!
CAUSES EYE AND SKIN BURNS.
VERY TOXIC TO AQUATIC ORGANISMS.
MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.

Do not get in eyes, on skin or on clothing. Do not ingest. Avoid breathing dust/vapor. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.

Possible Carcinogenic Effects

Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.: IARC, NTP, OSHA, ACGIH: Not listed.
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-: IARC, NTP, OSHA, ACGIH: Not listed.
Amines, tallow alkyl: IARC, NTP, OSHA, ACGIH: Not listed.
N-(2-Hydroxyethyl)tallowalkyl amines: IARC, NTP, OSHA, ACGIH: Not listed.

Routes of Entry Absorbed through skin. Dermal contact. Eye contact.

See Toxicological Information (section 11)

Section 3. Composition/ Information on Ingredients

Name	CAS #	% by Weight
Ethanol, 2,2'-iminobis, n-tallow alkyl derivs.	61791-44-4	97-100
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	25322-68-3	0.001-2
Amines, tallow alkyl	61790-33-8	0.001-2
N-(2-Hydroxyethyl)tallowalkyl amines	Not Assigned	0.001-2

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Medical Conditions Aggravated by Overexposure	Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section 5. Fire Fighting Measures

Flammability of the Product	May be combustible at high temperature.
Flash Points	Closed cup: 204°C (399.2°F). (Pensky-Martens.)
Products of Combustion	These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...).
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Do not get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Section 7. Handling and Storage

Handling	Do not ingest. Avoid breathing dust/vapor. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/ Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	
Eyes	Splash goggles.
Body	Synthetic apron.

Continued on Next Page

Respiratory	Respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves.
Feet	Not applicable.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Ingredient Name	Exposure Limits United States
Ethanol, 2,2'-iminobis, n-tallow alkyl derivs.	Not available.
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	**AIHA WEEL (United States, 2005).** TWA: 10 mg/m^3 8 hour(s). Form: Aerosol
Amines, tallow alkyl	Not available.
N-(2-Hydroxyethyl)tallowalkyl amines	Not available.

Section 9. Physical and Chemical Properties

Physical State	Solid.
Color	Amber.
Odor	Amine like.
Boiling/Condensation Point	>300°C (572°F)
Melting/Freezing Point	29°C (84.2°F)
Density	0.916 g/cm^3 (20°C / 68°F)
Vapor Pressure	<0.01 kPa (<0.1 mmHg) (at 20°C)
Evaporation Rate	<1 compared to Butyl acetate.
Solubility	Very slightly soluble in cold water.
Dispersion Properties	Not available.
Physical Chemical Comments	Viscosity = 34cp @ 50C; 29cp @ 70C. (Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.)

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Incompatibility with Various Substances	Reactive with OXIDIZING AGENTS, acids.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Toxicity to Animals

Ingredient Name or Product name	Test	Result	Route	Species
Ethanol, 2,2'-iminobis, n-tallow alkyl derivs.	LD50	1200 to 1500 mg/kg	Oral	Rat
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	LD50	600 mg/kg	Oral	Rat
	LD50	1054 mg/kg	Oral	Rat
	LD50	27500 mg/kg	Oral	Rat
	LD50	>20000 mg/kg	Dermal	Rabbit
Amines, tallow alkyl	LD50	1950 mg/kg	Oral	Rat

Continued on Next Page

Special Remarks on Toxicity to Animals

Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.: INHALATION LC50 = 220 ppm @1 hour, rat based on data for: (similar material)
Amines, tallow alkyl: INHALATION > 0.033 mg/L 1 hour/hours Rat; highest concentration tested.

Chronic Effects on Humans

MUTAGENIC EFFECTS: Non-mutagenic for bacteria and/or yeast. [Amines, tallow alkyl].

Special Remarks on Chronic Effects on Humans

Amines, tallow alkyl: Chromosomal (DNA) abnormalities will not occur in CHO mammalian cell assay, the In Vivo Cytogenetics Assay in mice, the CHO/HGPRT mammalian cell assay and the Mouse Lymphoma Assay; based on a similar material.

Acute Effects Skin

Corrosive to the skin. May cause sensitization by skin contact. Practically non-toxic in contact with skin.

Acute Effects Eyes

Corrosive to the eyes.

Special Remarks on Other Toxic Effects on Humans

:
Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.: Skin and Eyes based on data for: (similar material). Sensitizing in the LLNA Assay.
Amines, tallow alkyl: Sensitization based on data for: (similar material)

Section 12. Ecological Information

Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
Ethanol, 2,2'-iminobis, n-tallow alkyl derivs.	Zebrafish[estimated from tests on similar products] (LC50)	96 hour(s)	0.28 mg/l
	[estimated from tests on similar products] (EC50)	48 hour(s)	0.84 mg/l
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	Oncorhynchus mykiss (LC50)	96 hour(s)	>20000 mg/l
	Fish (LC50)	24 hour(s)	>5000 mg/l
Amines, tallow alkyl	Fish (LC50)	96 hour(s)	0.11 mg/l
	Daphnia (LC50)	48 hour(s)	0.011 mg/l
	Algae (LC50)	72 hour(s)	0.03 mg/l

Biodegradability and Ecotoxicity Remarks

Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.: 52% @ 28 day(s) CBT; 62% @ 35 day(s) CBT
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-: 5% @ 5 day(s) CBT 38% @ 10 day(s) CBT 70% @ 20 day(s) CBT
Amines, tallow alkyl: 55% @ 28 day/days CBT. 72% @ 42 day/days CBT

Products of Degradation

These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2...).

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

Section 14. Transport Information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	UN3259	Amines, solid, corrosive, n.o.s. (Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.)	8 -	III		-

Continued on Next Page

TDG Classification	UN3259	AMINES, SOLID, CORROSIVE, N.O.S. (Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.)	8 -	III		**Special Provisions** **Classified in Accordance with UN Recomendations**
IMDG Class	UN3259	AMINES, SOLID, CORROSIVE, N.O.S. (Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.)	8 -	III		-
IATA-DGR Class	UN3259	Amines, solid, corrosive, n.o.s. (Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.)	8 -	III		-

Section 15. Regulatory Information

HCS Classification Corrosive Material

U.S. Federal Regulations TSCA: All intentionally present components are listed on the TSCA inventory.

DSL: All intentionally present components are listed on the DSL.

TSCA 5(a)2 final significant rules: No products were found.

CERCLA: Hazardous substances.: No products were found.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: ARMOSTAT™ 310
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ARMOSTAT™ 310: Immediate (Acute) Health Hazard

SARA 313 Form R Reporting Requirements
No products were found.

SARA 313 Supplier Notification
No products were found.

State Regulations No products were found.

California prop. 65: No products were found.

WHMIS (Canada) Class E: Corrosive solid.

CEPA DSL: Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

European Union

Component	EC Number	EC Status	EC Annex
Ethanol, 2,2'-iminobis, n-tallow alkyl derivs.	263-177-5	Not available.	Not available.
poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	500-038-2	NLP.	Not available.
Amines, tallow alkyl	263-125-1	Not available.	Not available.
N-(2-Hydroxyethyl)tallowalkyl amines	Not available.	Not available.	Not available.

Continued on Next Page

Other International Lists

Australia (NICNAS): Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

China: Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

Japan (MITI): poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

Korea (TCCL): Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

Philippines (RA6969): Ethanol, 2,2'-iminobis, N-tallow alkyl derivs.; poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-; Amines, tallow alkyl

Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	3
Fire Hazard	1
Reactivity	0
Personal Protection	

National Fire Protection Association (U.S.A.)

Other Information Armostat™ is a trademark of Akzo Nobel or affiliated companies.

Validation Date	**5/14/2007.**	**Validated by**	**Product Safety Specialist**
Previous Validation Date	5/20/2005.	**Print Date**	5/15/2007.
		Phone Number	**312-544-7038**

Notice to Reader

The information in the material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. However, no warranty is made as to the accuracy of and/or sufficiency of such information and/or suggestions or as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. Buyer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current.