Att'N. Eric

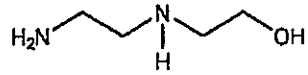
Technical Bulletin

HUNTSMAN

AMINOETHYLETHANOLAMINE (AEEA)
(2-[(2-aminoethyl)amino]-ethanol)

[CAS #000111-41-1]

STRUCTURE



DESCRIPTION

Aminoethylethanolamine (CAS #000111-41-1, 2-[(2-aminoethyl)amino]-ethanol) is a single-component product, with minimal ethylenediamine impurity. The product is water-soluble, clear, colorless, and slightly viscous. An ammonia-like odor is typical of the product.

APPLICATIONS

- Chelating agents
- Fabric softeners
- Lube oil & fuel additives
- Surfactants
- Textile additives
- Urethane chemicals

SALES SPECIFICATIONS

Appearance	Liquid, colorless
Assay, wt. %	99.6 min.
Color, Pt-Co	25 max.
Ethylenediamine, ppm	100 max.
Water, wt. %	0.2 max.
Drum shelf life	24 months

AVAILABILITY

Aminoethylethanolamine (AEEA) is available in bulk and in 55-gallon drums of 213 Kg net weight. Requests for samples can be made through any Huntsman Corporation sales office.

TYPICAL PROPERTIES

Property	SI Units
Molecular weight	
(Linear component)	104.15
(Typical product)	104.2
Boiling point, 760 mm Hg, °C	243.1
Freezing point, °C[a]	-38
Density, g/ml, 20°C[b]	1.028
Specific gravity 20°/20°[b]	1.030
Viscosity, cp, 20°C	88.4
Kinematic viscosity, cSt, 25°C[b]	98
Kinematic viscosity, cSt, 40°C[b]	48.5
Vapor pressure, 20°C, mm Hg	<0.01
Specific heat, cal/g °C, 20°C	0.490
Thermal conductivity,	
cal/cm-sec-°C, 20°C	0.00059
Surface tension, dynes/cm, 20°C	44.8
Coefficient of expansion, 1/°C, 20°C	0.000789
Refractive index, 25°C[b]	1.484
Dielectric constant, 25°C and 1 kHz[b]	22.0
Electrical conductivity,	
µmhos/cm, 24°C[b]	0.47
Heat of formation, kcal/mol	-64.8
Heat of vaporization, BTU/lb	241.6
Heat of combustion, BTU/lb	12465
Ionization constant, k_b1 @ 25°C	3.0E-5
pH of 1 wt. % solution[b]	11.4
Nitrogen content, %[b]	26.9
Amine value, mg KOH/g[b]	1070

[a]Pour point
[b]Property of typical sales product

5008-0905

Main Offices: Huntsman Corporation / 10003 Woodloch Forest Dr. / The Woodlands, Texas 77380 / 281-719-6000
Technical Services Section: 8600 Gosling Rd. / The Woodlands, Texas 77381 / 281-719-7780

STORAGE AND HANDLING

In order to maintain the high degree of purity with which aminoethylethanolamine (AEEA) is manufactured and shipped, the following storage and handling considerations are recommended:

Dry Inert Gas Blanket

This product should be stored under a dry inert gas blanket, such as nitrogen, to minimize contamination resulting from contact with air and water.

Materials of Construction

If slight coloration of the ethyleneamine is acceptable, storage tanks may be made of carbon steel or black iron, provided they are free of rust and mill scale. However, if the amine is stored in such tanks, color may develop due to iron contamination. If iron contamination cannot be tolerated, tanks constructed of types 304 or 316 stainless steel should be used. (Note: Because they are quickly corroded by amines, do not use copper, copper alloys, brass, or bronze in tanks or lines.) Recommended storage construction for AEEA is stainless steel.

Storage Temperature

Aminoethylethanolamine (AEEA) has a pour point of -38°C. To avoid freezing, the product should be maintained above this temperature. At temperatures below 5°C, viscosity becomes so high that the product cannot be easily pumped.

Spills or Leaks

Small spills should be covered with inorganic absorbents and disposed of properly. Organic absorbents have been known to ignite when contaminated with amines in closed containers. Certain cellulosic materials used for spill cleanup such as wood chips or sawdust have shown reactivity with ethyleneamines and should be avoided. Large spills should be contained and recovered. Water may be used for clean-up purposes, but avoid disposing of the material into sewers or natural water bodies. Disposal should be in accordance with all federal, state and local laws, regulations, and ordinances. Ethyleneamine leaks will frequently be identified by the odor (ammoniacal) or by the formation of a white, solid, waxy substance (amine carbamates). Inorganic absorbents or water may be used to clean up the amine waste.

TOXICITY AND SAFETY

Because of the fragility of eye tissue, almost any eye contact with any ethyleneamine may cause irreparable damage, even blindness. A single, short exposure to ethyleneamines, may cause severe skin burns, while a single, prolonged exposure may result in the material being absorbed through the skin in harmful amounts. Exposures has caused allergic skin reactions in some individuals. Single dose oral toxicity of ethyleneamines is low. The oral LD_{50} for rats is in the range of 1000 to 4500 mg/kg for the ethyleneamines.

The principal hazards that arise in working with aminoethylethanolamine (AEEA) are those associated with similar organic amines; namely, a corrosive action on skin and eyes. Precautions should be taken to prevent contact with these parts of the body such as by use of protective clothing and chemical goggles. If contact occurs, immediately flush the exposed area with plenty of water for at least 15 minutes. Eye exposures should be examined by a physician. Contaminated clothing should be laundered before reuse. If ingestion occurs, do not induce vomiting. Have the individual drink a large amount of water (or milk, if it is readily available) and transport them to a medical facility immediately.

A Material Safety Data Sheet for aminoethylethanolamine (AEEA) may be obtained on request from any Huntsman Corp sales office. The CAS No. for aminoethylethanolamine (AEEA) is 000111-41-1.

Material Safety Data Sheet
The Dow Chemical Company

Product Name: AMINOETHYLETHANOLAMINE.

Issue Date: 08/02/2006
Print Date: 05 Aug 2006

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name
AMINOETHYLETHANOLAMINE.

COMPANY IDENTIFICATION
The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-258-2436

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 989-636-4400
Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview
Color: Colorless
Physical State: Liquid
Odor: Slightly ammoniacal
Hazards of product:

DANGER! Causes severe eye burns. Causes severe skin burns. Causes burns of the mouth and throat. May cause allergic skin reaction. Aspiration hazard. Can enter lungs and cause damage. Keep upwind of spill.

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

Potential Health Effects
Eye Contact: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.
Skin Contact: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. May cause more severe response on covered skin (under clothing, gloves). Classified as corrosive to the skin according to DOT guidelines.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Sensitization: Skin contact may cause an allergic skin reaction. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA). Has caused allergic skin reactions when tested in mice. Has caused allergic skin reactions when tested in guinea pigs.
Inhalation: At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation.
Ingestion: Low toxicity if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.
Effects of Repeated Exposure: In animals, effects have been reported on the following organs: Gastrointestinal tract. Kidney.
Birth Defects/Developmental Effects: Has caused birth defects in laboratory animals.
Reproductive Effects: Has been toxic to the fetus in laboratory animal tests. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.

3. Composition Information

Component	CAS #	Amount
Aminoethylethanolamine	111-41-1	> 99.5 %
Triethylenetetramine mixture	112-24-3	> 0.1 %

4. First-aid measures

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.
Skin Contact: Immediately wash thoroughly any size exposure with non-abrasive soap and large quantities of water for 30 minutes while removing contaminated clothing and shoes. Destroy contaminated leather items such as shoes, belts, and watchbands. Wash contaminated clothing before reuse.
Inhalation: Move person to fresh air; if effects occur, consult a physician.
Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth to an unconscious person.
Notes to Physician: Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if

this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.
Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Steps to be Taken If Material is Released or Spilled: Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Do NOT use absorbent materials such as: Cellulose. Sawdust. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. Dilute with large quantities of water. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.
Personal Precautions: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.
Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling
General Handling: Do not get in eyes, on skin, on clothing. Do not swallow. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.
Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage
Store in a dry place. Do not store in: Zinc. Copper. Galvanized containers. Copper alloys.
Additional storage and handling information on this product may be obtained by calling your Dow sales or customer service contact.

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Aminoethylethanolamine	Dow IHG	TWA	0.5 mg/m3 SKIN, D-SEN
Triethylenetetramine mixture	WEEL	TWA	6 mg/m3 1 ppm SKIN

A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact.
It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.
A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

Personal Protection

Eye/Face Protection: Use chemical goggles. Eye wash fountain should be located in immediate work area.
Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Chlorinated polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.
Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless
Odor	Slightly ammoniacal
Flash Point - Closed Cup	127 °C (261 °F) *ASTM D93*
Flammable Limits In Air	**Lower:** No test data available **Upper:** No test data available
Autoignition Temperature	No test data available
Vapor Pressure	< 0.01 mmHg @ 20 °C *Literature*
Boiling Point (760 mmHg)	242.8 °C (469.0 °F) *Literature* .
Vapor Density (air = 1)	3.6 *Literature*
Specific Gravity (H2O = 1)	1.030 20 °C/20 °C *Literature*
Liquid Density	1.030 g/ml @ 15.56 °C *Literature* 1.027 g/ml @ 20 °C *Literature* 1.035 g/ml @ -45 °C *Literature* @ freezing pt.
Freezing Point	-45 °C (-49 °F) *Literature*
Melting Point	not applicable to liquids
Solubility in Water (by weight)	100 % *Literature*
pH	No test data available
Molecular Weight	104.15 g/mol
Octanol/Water Partition Coefficient	-1.46 *Measured*

Evaporation Rate (Butyl Acetate = 1)	0.01
Kinematic Viscosity	98 mm2/s @ 25 °C *Literature*

10. Stability and Reactivity

Stability/Instability
Stable under recommended storage conditions. See Storage, Section 7. Hygroscopic.
Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid moisture.

Incompatible Materials: Avoid contact with: Nitrites. Strong acids. Strong oxidizers. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases Corrosive when wet. Heating above 60°C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas. Avoid unintended contact with: Halogenated hydrocarbons.

Hazardous Polymerization
Will not occur.

Thermal Decomposition
Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

Acute Toxicity
Ingestion
LD50, Rat 2,000 - 4,000 mg/kg
Skin Absorption
LD50, Rabbit 3,266 mg/kg
LD50, Rat 2,250 mg/kg
Sensitization
Skin
Skin contact may cause an allergic skin reaction. Individuals who have had an allergic skin reaction to similar materials may have an allergic skin reaction to this product. The similar material(s) is/are: Triethylenetetramine (TETA). Has caused allergic skin reactions when tested in mice. Has caused allergic skin reactions when tested in guinea pigs.
Repeated Dose Toxicity
In animals, effects have been reported on the following organs: Gastrointestinal tract. Kidney. Repeated skin application to laboratory animals did not produce systemic toxicity.
Developmental Toxicity
Has caused birth defects in laboratory animals. However, the route(s) of exposure were not relevant for industrial hazard evaluation.
Reproductive Toxicity
Has been toxic to the fetus in laboratory animal tests. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.
Genetic Toxicology
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. Ecological Information

CHEMICAL FATE

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Henry's Law Constant (H): 8.8E-10 atm*m3/mole; 25 °C Estimated
Partition coefficient, n-octanol/water (log Pow): -1.46 Measured
Partition coefficient, soil organic carbon/water (Koc): 3.5 Estimated
Bioconcentration Factor (BCF): < 3.7; common carp (Cyprinus carpio);Measured

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.20E-10 cm3/s	1.1 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
> 97 %	28 d	OECD 301F Test
30 - 50 %	37 d	OECD 302B Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
2 %	64 %	90 %	

Theoretical Oxygen Demand: 2.77 mg/mg

ECOTOXICITY

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity
LC50, fathead minnow (Pimephales promelas), 96 h: 520 - 728 mg/l
Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 65 mg/l
Aquatic Plant Toxicity
EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: 210 mg/l
Toxicity to Micro-organisms
EC50; bacteria, Growth inhibition, 16 h: > 5,000 mg/l

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOW HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler, Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. Transport Information

DOT Non-Bulk
Proper Shipping Name: POLYAMINES, LIQUID, CORROSIVE, NOS
Technical Name: AMINOETHYLETHANOLAMINE
Hazard Class: 8 **ID Number:** UN2735 **Packing Group:** PG II

DOT Bulk
Proper Shipping Name: POLYAMINES, LIQUID, CORROSIVE, NOS
Technical Name: AMINOETHYLETHANOLAMINE
Hazard Class: 8 **ID Number:** UN2735 **Packing Group:** PG II

IMDG
Proper Shipping Name: POLYAMINES, LIQUID, CORROSIVE, NOS
Technical Name: AMINOETHYLETHANOLAMINE
Hazard Class: 8 **ID Number:** UN2735 **Packing Group:** PG II
EMS Number: F-A,S-B

ICAO/IATA
Proper Shipping Name: POLYAMINES, LIQUID, CORROSIVE, NOS
Technical Name: AMINOETHYLETHANOLAMINE
Hazard Class: 8 **ID Number:** UN2735 **Packing Group:** PG II
Cargo Packing Instruction: 812
Passenger Packing Instruction: 808

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

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

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Aminoethylethanolamine	111-41-1	> 99.5 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30
CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Product Literature
Additional information on this product may be obtained by calling your Dow Chemical Company sales or customer service contact.

Recommended Uses and Restrictions
Fabric softeners. Surfactants. Others.

Revision
Identification Number: 467 / 1001 / Issue Date 08/02/2006 / Version: 2.1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.