



# Material Safety Data Sheet

MSDS# 15-020

## Section 1. Chemical Product and Company Identification

<b>Product name</b>	<b>ARMEEN® 18D</b>	
<b>Material Uses</b>	: Surfactant.	<b>In Case of Emergency</b>
<b>Supplier/ Manufacturer</b>	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	CHEMTREC: 800-424-9300 CANUTEC: 613-996-6666 Medical/Handling: 914-693-6946 Product/Technical: 800-906-9977

## Section 2. Hazards Identification

<b>Physical State</b>	Solid. (Waxy solid.)
<b>Color</b>	White.
<b>Odor</b>	Ammoniacal. (Slight.)
<b>Emergency Overview</b>	WARNING! CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION.  Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
<b>Possible Carcinogenic Effects</b>	<b>n-octadecylamine:</b> IARC, NTP, OSHA, ACGIH: Not listed. <b>1-Octadecanamine, N-octadecyl-</b> : IARC, NTP, OSHA, ACGIH: Not listed.
<b>Routes of Entry</b>	Absorbed through skin. Dermal contact. Eye contact.

See Toxicological Information (section 11)

## Section 3. Composition/ Information on Ingredients

Name	CAS #	% by Weight
n-octadecylamine	124-30-1	95-100
1-Octadecanamine, N-octadecyl-	112-99-2	0.001-2

## Section 4. First Aid Measures

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion</b>	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

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<b>Medical Conditions Aggravated by Overexposure</b>	Repeated or prolonged exposure is not known to aggravate medical condition.
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## Section 5. Fire Fighting Measures

<b>Flammability of the Product</b>	May be combustible at high temperature.
<b>Flash Points</b>	Closed cup: >150°C (302°F). (Pensky-Martens.)
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ...).
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Protective Clothing (Fire)</b>	Be sure to use an approved/certified respirator or equivalent.

## Section 6. Accidental Release Measures

<b>Small Spill and Leak</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Large Spill and Leak</b>	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## Section 7. Handling and Storage

<b>Handling</b>	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8. Exposure Controls/ Personal Protection

<b>Engineering Controls</b>	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.
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### Personal Protection

<b>Eyes</b>	Splash goggles.
<b>Body</b>	Lab coat.
<b>Respiratory</b>	Respirator. Be sure to use an approved/certified respirator or equivalent.
<b>Hands</b>	Gloves.
<b>Feet</b>	Not applicable.

### Protective Clothing (Pictograms)



<b>Personal Protection in Case of a Large Spill</b>	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.
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Ingredient Name	Exposure Limits United States
n-octadecylamine	Not available.
1-Octadecanamine, N-octadecyl-	Not available.

## Section 9. Physical and Chemical Properties

Physical State	Solid. (Waxy solid.)
Color	White.
Odor	Ammoniacal. (Slight.)
Boiling/Condensation Point	349°C (660.2°F)
Melting/Freezing Point	56°C (132.8°F)
Pour Point	65°C
Density	0.791 g/cm <sup>3</sup> (60°C / 140°F)
Vapor Pressure	<0.01 kPa (<0.1 mmHg) (at 20°C)
Vapor Density	The highest known value is 9.29 (Air = 1) (n-octadecylamine).
Evaporation Rate	<1 compared to Butyl acetate.
Solubility	Very slightly soluble in cold water.
Dispersion Properties	Not available.
Physical Chemical Comments	Viscosity = 43.7 SSU @ 55°C; 42.2 SSU @ 55°C; 39.9 SSU @ 55°C.

## 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
n-octadecylamine	LD50	2395 mg/kg	Oral	Rat
1-Octadecanamine, N-octadecyl-	LD50	>10000 mg/kg	Oral	Rat based on data for: (similar material)

**Special Remarks on Toxicity to Animals** n-octadecylamine: NOEL = 500 ppm (two-year dietary) in rats.  
NOEL = 3 mg/kg/day (two-year dietary) in dogs.

**Chronic Effects on Humans** **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [n-octadecylamine].  
**MUTAGENIC EFFECTS:** Non-mutagenic for bacteria and/or yeast. [n-octadecylamine].

**Acute Effects Skin** Moderately irritating to the skin.

**Acute Effects Eyes** Severely irritating to the eyes.

## Section 12. Ecological Information

### Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
n-octadecylamine	Daphnia magna (EC50)	48 hour(s)	1.7 mg/l
	Algae (EC50)	72 hour(s)	<1 mg/l

**Biodegradability and Ecotoxicity Remarks** n-octadecylamine: 55% @ 28 day(s) CBT based on data for: (similar material); 72% @ 42 day(s) CBT based on data for: (similar material)  
1-Octadecanamine, N-octadecyl-: 4% @ 28 day(s) CBT based on data for: (similar material)

**Biodegradable/OECD** Readily biodegradable.

**Products of Degradation** These products are carbon oxides (CO, CO<sub>2</sub>) and water, nitrogen oxides (NO, NO<sub>2</sub>...).

## 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	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

## Section 15. Regulatory Information

**HCS Classification** Irritating 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: n-octadecylamine  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: n-octadecylamine:  
 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)** Not controlled under WHMIS (Canada).  
 CEPA DSL: n-octadecylamine; 1-Octadecanamine, N-octadecyl-

	Component	EC Number	EC Status	EC Annex
European Union	n-octadecylamine	204-695-3	Not available.	Not available.
	1-Octadecanamine, N-octadecyl-	204-020-2	Not available.	Not available.
Other International Lists	Australia (NICNAS): n-octadecylamine; 1-Octadecanamine, N-octadecyl-			
	China: n-octadecylamine; 1-Octadecanamine, N-octadecyl-			
	Germany water class: n-octadecylamine			
	Japan (MITI): n-octadecylamine; 1-Octadecanamine, N-octadecyl-			
	Korea (TCCL): n-octadecylamine; 1-Octadecanamine, N-octadecyl-			
	Philippines (RA6969): n-octadecylamine; 1-Octadecanamine, N-octadecyl-			

## Section 16. Other Information

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

Health	2
Fire Hazard	1
Reactivity	0
Personal Protection	

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



**Other Information** Armeen® is a registered trademark of Akzo Nobel or affiliated companies and is registered in one or more countries including the United States.

**Validation Date** 5/14/2007.  
**Previous Validation Date** 9/21/2006.

**Validated by** Product Safety Specialist  
**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.