



Material Safety Data Sheet

MSDS# 15-03822

Section 1. Chemical Product and Company Identification

Product name	ETHYLAN™ HB4	
Material Uses	: Surfactant.	In Case of Emergency
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	CHEMTREC: 800-424-9300 CANUTEC: 613-996-6666 Medical/Handling: 914-693-6946 Product/Technical: 800-906-9977

Section 2. Hazards Identification

Physical State	Liquid.
Color	Clear. Colorless.
Emergency Overview	CAUTION! MAY CAUSE EYE AND SKIN IRRITATION. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Possible Carcinogenic Effects	poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy- IARC, NTP, OSHA, ACGIH: Not listed. ethylene oxide: ACGIH = A2; IARC = 1; NTP = known; OSHA = +.
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
poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-	9004-78-8	100
ethylene oxide	75-21-8	<0.001

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.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
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. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

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

Flammability of the Product	May be combustible at high temperature.
Flash Points	Open Cup: >175°C (347°F) (Cleveland).
Products of Combustion	These products are carbon oxides (CO, CO 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	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Use suitable protective equipment (Section 8) . Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Use suitable protective equipment (Section 8) . Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.
Other Special Considerations	ethylene oxide: This product contains trace amounts of ethylene oxide, a condition which creates the potential for accumulation of ethylene oxide in the headspace of shipping and storage containers and in enclosed areas where the product is being handled or used. If this product is handled according to the recommendations in the MSDS, the presence of these trace amounts of ethylene oxide is not expected to result in any short term or long term hazard.

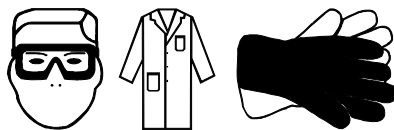
Section 8. Exposure Controls/ Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
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Personal Protection

Eyes	Splash goggles.
Body	Lab coat.
Respiratory	Not applicable.
Hands	Gloves.
Feet	Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
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Ingredient Name

Exposure Limits United States

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poly(oxy-1,2-ethanediyl),
.alpha.-phenyl-.omega.-hydroxy-
ethylene oxide

Not available.

ACGIH TLV (United States, 2006). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. Refers to Appendix A -- Carcinogens.

TWA: 1.8 mg/m³ 8 hour(s).

TWA: 1 ppm 8 hour(s).

NIOSH REL (United States, 2001). Notes: Value is for minutes per day. See Appendix A - NIOSH Potential Occupational Carcinogen

CEIL: 9 mg/m³ 10 minute(s).

CEIL: 5 ppm

TWA: 0.18 mg/m³ 10 hour(s).

TWA: 0.1 ppm 10 hour(s).

OSHA PEL (United States, 1997).

STEL: 5 ppm 15 minute(s).

TWA: 1 ppm 8 hour(s).

OSHA PEL 1989 (United States, 1989). Notes: Sec. 1910.1047 Ethylene oxide.

STEL: 5 ppm 15 minute(s).

TWA: 1 ppm 8 hour(s).

Section 9. Physical and Chemical Properties

Physical State	Liquid.
Color	Clear. Colorless.
pH	Acidic.
Boiling/Condensation Point	>200°C (392°F)
Melting/Freezing Point	<0°C (32°F)
Density	1.121 g/cm ³ (20°C / 68°F)
Solubility	Soluble in cold water.
Dispersion Properties	See solubility in water.
Physical Chemical Comments	Viscosity = 64 cst @ 20°C.

Section 10. Stability and Reactivity

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

Section 11. Toxicological Information

Toxicity to Animals

Ingredient Name or Product name	Test	Result	Route	Species
poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy- ethylene oxide	LD50	5600 mg/kg	Oral	Rat
	LD50	72 mg/kg	Oral	Rat
	LD50	270 mg/kg	Oral	Guinea pig

Acute Effects Skin	Moderately irritating to the skin.
Acute Effects Eyes	Moderately irritating to the eyes.
Special Remarks on Other Toxic Effects on Humans	:

Section 12. Ecological Information

Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy- ethylene oxide	Trout (LC50)	96 hour(s)	>100 ppm
	Pimephales promelas (LC50)	96 hour(s)	84 mg/l

Products of Degradation These products are carbon oxides (CO, CO₂) and water.

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 Not controlled under the HCS (United States).

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.: ethylene oxide: 10 lbs. (4.536 kg);

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: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

SARA 313 Form R Reporting Requirements

No products were found.

SARA 313 Supplier Notification

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No products were found.

Other Regulations

Not applicable.

State Regulations

Pennsylvania RTK: ethylene oxide: (special hazard, environmental hazard, generic environmental hazard)

Massachusetts RTK: ethylene oxide

New Jersey: ethylene oxide

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: ethylene oxide

California prop. 65: This product contains the following ingredients for which the State of California has found to cause reproductive harm (female) which would require a warning under the statute: ethylene oxide

California prop. 65 (no significant risk level): ethylene oxide

California prop. 65 (acceptable daily intake level): ethylene oxide

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: ethylene oxide

WHMIS (Canada)

Not controlled under WHMIS (Canada).

CEPA DSL: poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

European Union

Component	EC Number	EC Status	EC Annex
poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy- ethylene oxide	500-013-6	NLP.	Not available.
	200-849-9	Not available.	603-023-00-X

Other International Lists

Australia (NICNAS): poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

China: poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

Germany water class: ethylene oxide

Japan (MITI): poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

Japan (MOL): ethylene oxide

Korea (TCCL): poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

Philippines (RA6969): poly(oxy-1,2-ethanediyl), .alpha.-phenyl-.omega.-hydroxy-; ethylene oxide

Section 16. Other Information

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

Health	1
Fire Hazard	1
Reactivity	0
Personal Protection	

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



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

Validation Date 5/16/2007.

Previous Validation Date 5/8/2007.

Validated by

Print Date

Phone Number

Product Safety Specialist

5/16/2007.

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.