

Safety Data Sheet ENEA0180 Date of issue: 12/09/2014 Version: 1.0

	stance/mixture and of the company/undertaking
1.1. Product identifier	
Product form	: Substance
Physical state	
Substance name	: ALLYLOXY(DIETHYLENE OXIDE), METHYL ETHER, tech-95
Product code	: ENEA0180
Formula	
Synonyms	: ALLYL ALCOHOL ETHOXYLATE, METHYL ETHER (EO = 2); 3- (METHOXYETHOXYETHOXY)PROPENE
Chemical family	: POLYETHER
	tance or mixture and uses advised against
Use of the substance/mixture	: Chemical intermediate
	For research and industrial use only
1.3. Details of the supplier of the safety	data sheet
GELEST, INC.	
11 East Steel Road	
Morrisville, PA 19067 USA	
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 /	AM - 5:30 PM EST
info@gelest.com - www.gelest.com	
1.4. Emergency telephone number	
Emergency number	: CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)
SECTION 2: Hazards identification	
2.1. Classification of the substance or m	ixture
Classification (GHS-US) Flam. Lig. 3 H226	
Acute Tox. 4 (Oral) H302	
Full text of H-phrases: see section 16	
2.2. Label elements	
GHS-US labeling	
Hazard pictograms (GHS-US)	
Hazard pictograms (GHS-05)	
Circul word (CUC UC)	GHS02 GHS07
Signal word (GHS-US)	: Warning
Hazard statements (GHS-US)	: H226 - Flammable liquid and vapor H302 - Harmful if swallowed
Precautionary statements (GHS-US)	: P280 - Wear protective gloves/protective clothing/eye protection/face protection
	P210 - Keep away from heat, open flames, sparks No smoking
	P233 - Keep container tightly closed P240 - Ground/bond container and receiving equipment
	P241 - Use explosion-proof electrical equipment
	P242 - Use only non-sparking tools
	P243 - Take precautionary measures against static discharge P264 - Wash hands thoroughly after handling
	P270 - Do not eat, drink or smoke when using this product
	P330 - Rinse mouth
	P301+P312 - If swallowed: Call a doctor if you feel unwell P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse
	skin with water/shower
	P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical to
	extinguish P403+P235 - Keep in a cool place
	P403+P235 - Keep in a cool place P501 - Dispose of contents/container to licensed waste disposal facility.

Safety Data Sheet

.3. Other hazards			
lo additional information available			
2.4. Unknown acute toxicity (GHS	US)		
No data available			
SECTION 3: Composition/infor	nation on ingredients		
3.1. Substance			
Substance type	: Multi-constituent		
Name	: ALLYLOXY(DIETH)	YLENE OXIDE), METHYL ETHER, tech-	95
CAS No	: 13752-97-1		
Name	Product ide	ntifier %	Classification (GHS-US)
Allyloxy(diethylene oxide), methyl ether	(CAS No) 1375	2-97-1 > 95	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302
Allyloxy(triethylene oxide), methyl ether	(CAS No) 1968	5-21-3 < 5	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302
Allyl alcohol	(CAS No) 107-1	18-6 < 0.01	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 1 (Inhalation:vapour), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400
		I	
3.2. Mixture			

4.1. Description of first aid measures		
First-aid measures general	:	Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	:	Remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	:	Wash with plenty of soap and water.
First-aid measures after eye contact	:	Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	:	Never give anything by mouth to an unconscious person. Get medical advice/attention.
4.2. Most important symptoms and effe	ects,	both acute and delayed
Symptoms/injuries after inhalation	:	No information available.
Symptoms/injuries after skin contact	:	May cause skin irritation.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECT	ION 5: Firefighting measure	es
5.1.	Extinguishing media	
Suitable	extinguishing media	: Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.
5.2.	Special hazards arising from th	e substance or mixture
Fire haz	ard	: Flammable liquid and vapor. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
5.3.	Advice for firefighters	
Firefigh	ting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
Protecti	on during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.
SECTION 6: Accidental release measures		

6.1.	Personal precautions, protective equ	ipment and emergency procedures
General r	measures	: Remove ignition sources. Use special care to avoid static electric charges.

-		
6.1.1. For non-emergency		
Emergency procedures	: Evacuate unnecessary	personnel.
6.1.2. For emergency res		
Protective equipment	: Equip cleanup crew wit	th proper protection.
6.2. Environmental prec		
	ublic waters. Notify authorities if liquid enters	sewers or public waters.
	ial for containment and cleaning up	
Methods for cleaning up	shovel spills into appro	soon as possible, using an absorbent material to collect it. Sweep or priate container for disposal. Use only non-sparking tools.
6.4. Reference to other		
See Heading 8. Exposure cont		
SECTION 7: Handling a		
7.1. Precautions for safe Precautions for safe handling	•	contact and do not breathe vanor and mist. Provide good ventilation in
Frecautions for sale fiantuning		contact and do not breathe vapor and mist. Provide good ventilation in t accumulation of vapors. Take precautionary measures against static n-sparking tools.
Hygiene measures		exposed areas with mild soap and water before eating, drinking or ving work. Wash contaminated clothing before reuse.
	storage, including any incompatibilities	
Technical measures		r and receiving equipment. Use explosion-proof electrical equipment.
Storage conditions Incompatible materials	: Keep container tightly c : Oxidizing agent.	closed. May freeze if stored <0°C.
Storage area		ed place. Store away from heat.
7.3. Specific end use(s)		
No additional information availa	able	
	controls/personal protection	
8.1. Control parameters		
Allyl alcohol (107-18-6)		
USA ACGIH	ACGIH TWA (ppm)	0.5 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	2 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	10 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	4 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA OSHA	OSHA PEL (TWA) (highi)	°
	(, , , , , , , , , , , , , , , , , , ,	2 ppm
USA IDLH	US IDLH (ppm)	20 ppm
8.2. Exposure controls Appropriate engineering control	. Provide local exhaust c	or general room ventilation.
Personal protective equipment	: Avoid all unnecessary e	exposure. Emergency eye wash fountains and safety showers should be iate vicinity of any potential exposure.
Hand protection	: Neoprene or nitrile rubb	0
Eye protection		ntact lenses should not be worn.
Skin and body protection	: Wear suitable protectiv	5
Respiratory protection		c vapor (black cartridge) respirator.
SECTION 9: Physical a	nd chemical properties	
	ic physical and chemical properties	
Physical state	: Liquid	
Appearance Molecular mass	: Clear liquid.	
Molecular mass Color	: 160.21 g/mol : Pale yellow.	
Odor	: No data available	
Odor threshold	: No data available	
10/00/0011		

Refractive index	: No data available		
рН	: No data available		
Relative evaporation rate (butyl acetate=1)	: No data available		
Melting point	: No data available		
Freezing point	< 0 °C		
Boiling point	40 - 60 °C @ 0.5 mm Hg		
Flash point	> 40 °C		
	No data available		
2 .	No data available		
Flammability (solid, gas)	Flammable liquid and vapor		
	< 0.01 mm Hg @ 20°C		
	>1		
	0.916		
,	< 3 %		
	Slightly. Soluble in water.		
-	No data available		
Log Kow	No data available		
Viscosity, kinematic	No data available		
-	No data available		
Viscosity, dynamic	No data available		
Explosive properties			
Oxidizing properties	No data available		
Explosive limits	No data available		
9.2. Other information			
No additional information available			
SECTION 10: Stability and reactivity			
10.1. Reactivity			
No additional information available			
10.2. Chemical stability			
Stable.			
10.3. Possibility of hazardous reactions			
No additional information available			
10.4. Conditions to avoid			
Heat. Open flame. Sparks.			
10.5. Incompatible materials			
Oxidizing agent.			
10.6. Hazardous decomposition products			
Organic acid vapors.			
SECTION 11: Toxicological informatic	n		
11.1. Information on toxicological effects			
Acute toxicity	Oral: Harmful if swallowed.		
ALLYLOXY(DIETHYLENE OXIDE), METHYL E	THER, tech-95 (13752-97-1)		
ATE US (oral)	500.000 mg/kg body weight		
Allyl alcohol (107-18-6)			
LD50 oral rat	64 mg/kg		
LD50 dermal rabbit	89 mg/kg		
LC50 inhalation rat (mg/l)	0.391 mg/l/4h		
ATE US (oral)	64.000 mg/kg body weight		
	89.000 mg/kg body weight		
ATE US (dermal)			
ATE US (vapors)	0.391 mg/l/4h		
ATE US (vapors) ATE US (dust, mist)	0.391 mg/l/4h 0.391 mg/l/4h		
ATE US (vapors) ATE US (dust, mist) Allyloxy(diethylene oxide), methyl ether (1375	0.391 mg/l/4h 0.391 mg/l/4h 2-97-1)		
ATE US (vapors) ATE US (dust, mist) Allyloxy(diethylene oxide), methyl ether (1375 LD50 oral rat	0.391 mg/l/4h 0.391 mg/l/4h 2-97-1) 1500 mg/kg (data for PEG 2-6) analogs		
ATE US (vapors) ATE US (dust, mist) Allyloxy(diethylene oxide), methyl ether (1375 LD50 oral rat Allyloxy(triethylene oxide), methyl ether (1968	0.391 mg/l/4h 0.391 mg/l/4h 2-97-1) 1500 mg/kg (data for PEG 2-6) analogs 5-21-3)		
ATE US (vapors) ATE US (dust, mist) Allyloxy(diethylene oxide), methyl ether (1375 LD50 oral rat	0.391 mg/l/4h 0.391 mg/l/4h 2-97-1) 1500 mg/kg (data for PEG 2-6) analogs		

Safety Data Sheet

Allyl alcohol (107-18-6)	
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: No information available.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
SECTION 12: Ecological information	
12.1. Toxicity	
Allyl alcohol (107-18-6)	
LC50 fish 1	0.28 - 0.37 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	0.32 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2.	Persistence and degradability
No addit	ional information available

12.3. Bioaccumulative potential

12.5. Dioaccumulative potential	
Allyl alcohol (107-18-6)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	0.17
12.4. Mobility in soil	
No additional information available	
12.5. Other adverse effects	
Other adverse effects	: This substance may be hazardous to the environment.
Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.

SECTION 13: Disposal consideration	\$
13.1. Waste treatment methods	
Waste disposal recommendations	: Incinerate. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	: Avoid release to the environment.
SECTION 14: Transport information	
14.1. UN number	

UN-No.(DOT)	: 1993
DOT NA no.	UN1993
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Flammable liquids, n.o.s.
	(ALLYLOXY(DIETHYLENE OXIDE), METHYL ETHER)
Department of Transportation (DOT) Hazard Classes	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid

DOT Symbols

: G - Identifies PSN requiring a technical name

Packing group (DOT) :	III - Minor Danger					
	: 150					
88 ()	203					
DOT Packaging Bulk (49 CFR 173.xxx) :	242					
14.3. Additional information						
Other information :	No supplementary information available.					
Transport by sea						
	A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a					
201 Volooi otomago zooanom	passenger vessel.					
Air transport						
DOT Quantity Limitations Passenger aircraft/rail : (49 CFR 173.27)	60 L					
DOT Quantity Limitations Cargo aircraft only (49 :	220 L					
CFR 175.75)						
SECTION 15: Regulatory information						
15.1. US Federal regulations						
ALLYLOXY(DIETHYLENE OXIDE), METHYL ET						
TSCA Exemption/Exclusion	Low Volume Exemption in accordance with 40 CFR 723.50(c)(1).,This LVE limits site of					
	manufacture of this substance to Gelest, Inc.					
Allyl alcohol (107-18-6)						
Listed on the United States TSCA (Toxic Substan Listed on the United States SARA Section 302	ces Control Act) inventory					
Listed on United States SARA Section 302						
SARA Section 302 Threshold Planning	1000					
Quantity (TPQ)						
SARA Section 313 - Emission Reporting	1.0 %					
Allyloxy(diethylene oxide), methyl ether (13752-97-1)						
Not listed on the United States TSCA (Toxic Subs						
Allyloxy(triethylene oxide), methyl ether (1968)	•					
Listed on the United States TSCA (Toxic Substan	ces Control Act) inventory					
15.2. International regulations						
Allyl alcohol (107-18-6)						
Listed on the AICS (Australian Inventory of Chem	ical Substances)					
Listed on the Canadian DSL (Domestic Sustances	s List)					
Listed on IECSC (Inventory of Existing Chemical						
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory						
Listed on the Korean ECL (Existing Chemicals List)						
Listed on NZIoC (New Zealand Inventory of Chemicals)						
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Poisonous and Deleterious Substances Control Law						
Japanese Pollutant Release and Transfer Register Law (PRTR Law)						
Listed on the Canadian IDL (Ingredient Disclosure List)						
Allyloxy(diethylene oxide), methyl ether (13752	•					
Allyloxy(triethylene oxide), methyl ether (19685-21-3)						
Listed on the Canadian NDSL (Non-Domestic Substances List) Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)						
15.3. US State regulations						
ALLYLOXY(DIETHYLENE OXIDE), METHYL ETHER, tech-95(13752-97-1)						
U.S California - Proposition 65 - Carcinogens List						
U.S California - Proposition 65 - Developmental	No					
Toxicity						
U.S California - Proposition 65 - Reproductive	No					
Toxicity - Female						
U.S California - Proposition 65 - Reproductive No Toxicity - Male						
Taxialty Mala						

Allyl alcohol (107-18-6)						
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level		
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRĽ)		
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -			
		Female	Male			
No	No	No	No			
Allyloxy(diethylene oxide)		<u></u>				
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level		
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)		
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	(,		
5		Female	Male			
No	No	No	No			
Allyloxy(triethylene oxide)		110	110			
U.S California -	U.S California -	U.S California -	U.S California -	No significance risk level		
Proposition 65 -	Proposition 65 -	Proposition 65 -	Proposition 65 -	(NSRL)		
Carcinogens List	Developmental Toxicity	Reproductive Toxicity -	Reproductive Toxicity -	(10112)		
5		Female	Male			
No	No	No	No			
		110				
Allyl alcohol (107-18-6)						
 U.S Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues U.S Connecticut - Hazardous Air Pollutants - HUxs (8 hn) U.S Delaware - Accidental Release Prevention Regulations - Troishold Quantities U.S Delaware - Accidental Release Prevention Regulations - Toxic Endpoints U.S Delaware - Accidental Release Prevention Regulations - Toxic Endpoints U.S Diclaware - Accidental Release Prevention Regulations - Toxic Endpoints U.S Diclaware - Accidental Release Prevention Regulations - Toxic Endpoints U.S Lotiana - Reportable Country Ls for Ar Pollutants - Emission Levels (ELS) U.S Lotiana - Reportable Quantity Ls for Pollutants - Emission Levels (ELS) U.S Massachusetts - Oli & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1 U.S Massachusetts - Oli & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2 U.S Massachusetts - Oli & Hazardous Material List - Soli Reportable Concentration - Reporting Category 2 U.S Massachusetts - Oli & Hazardous Material List - Soli Reportable Concentration - Reporting Category 2 U.S Massachusetts - Toxics Use Reduction Act et al Soli Reportable Concentration - Reporting Category 2 U.S Mindigan - Occupational Exposure Limits - Still Designations U.S Mindigan - Occupational Exposure Limits - Still Designations U.S Mindigan - Politurg Material List - Silf Reportable Concentration - Reporting Category 2 U.S Mindigan - Politurg Material List - Silf Reportable Concentration - Reporting Category 2 U.S Mindigan - Occupational Exposure Limits - Still Designations U.S Mindigan - Politurg Material List - Silf Reportable Concentration - Reporting Category 2 U.S Mindigan - Politurg Material List - Silf Reportable Concentrati						
U.S Texas - Effects Screening Levels - Short Term U.S Vermont - Hazardous Waste - Acutely Hazardous Wastes						
U.S Vermont - Hazardous	Waste - Hazardous Constitue	nts				
	Exposure Limits - Skin Desig					
12/09/2014	EN (Eng	lish US)	SDS ID: ENEA0180	7/9		

Safety Data Sheet

Allyl alcohol (107-18-6)
U.S Vermont - Permissible Exposure Limits - STELs
U.S Vermont - Permissible Exposure Limits - TWAs
U.S Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S Washington - Dangerous Waste - Discarded Chemical Products List
U.S Washington - Permissible Exposure Limits - Skin Designations
U.S Washington - Permissible Exposure Limits - STELs
U.S Washington - Permissible Exposure Limits - TWAs
U.S Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

SECTION 16: Other information

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases::

	Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapor) Category 1
	Acute Tox. 2 (Dermal)	Acute toxicity (dermal) Category 2
	Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
	Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
	Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
	Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
	Flam. Liq. 2	Flammable liquids Category 2
	Flam. Liq. 3	Flammable liquids Category 3
	Flam. Liq. 4	Flammable liquids Category 4
-	Skin Irrit. 2	Skin corrosion/irritation Category 2
-	STOT SE 3	Specific target organ toxicity (single exposure) Category 3
	H225	Highly flammable liquid and vapor
	H226	Flammable liquid and vapor
	H227	Combustible liquid
	H301	Toxic if swallowed
	H302	Harmful if swallowed
	H310	Fatal in contact with skin
	H315	Causes skin irritation
	H319	Causes serious eye irritation
	H330	Fatal if inhaled
	H335	May cause respiratory irritation
	H400	Very toxic to aquatic life

HMIS III Rating

: 2 Moderate Hazard - Temporary or minor injury may occur

Health Flammability Physical

: 3 Serious Hazard

: 0 Minimal Hazard

Prepared by safety and environmental affairs.

Date of issue: 12/09/2014 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Safety Data Sheet

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2014 Gelest Inc. Morrisville, PA 19067

