

SAFETY DATA SHEET

G-2048

AUTHOR Tecnopol Technical Service

REFERENCE G-2048 (COMP. B)

VERSION v.2

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Section 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifiers

Product Name G-2048 (COMP. B)

Product identification POLYOL

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Component(s) for the manufacture of urethane polymers.

1.3 Details of the supplier of the safety data sheet

Supplier : Tecnopol, SL. - Pol. Ind. "Z" - C/ de la Prensa, 5 - CP: 08150 - Parets del Vallès (Barcelona) Telf. 93 568 21 11 - Fax. 93 568 02 11

e-mail address of person responsible for this SDS : info@tecnopol.es

1.4 Emergency telephone number : (toxicological national institute) 0034 915 62 04 20

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Labelling according to EC Directives

Risk Phrases :

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases :

S3/7 - Keep container tightly closed in a cool place.

S56 - Dispose of this material and its container to hazardous or special waste collection point.

S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains: Methyltin-tris-(2-ethylhexylthioglycolate) Dimethyltin-bis(2-ethylhexylthioglycolate)
May produce an allergic reaction.



2.3 Other Hazards

No information available.

Section 3. Composition/information on ingredients

3.2 Mixture

This product is a mixture.

CAS # / EC # / Index	REACH No.	Amount	Component	Classification: REGULATION (EC) No 1272/2008
CAS # 25134-86-5 EC # Polymer	—	25.0 - 40.0 %	Phenol, polymer with formaldehyde, propylene oxide and ethylene oxide	Aquatic Chronic, 3, H412
CAS # 25322-68-3 EC # Polymer	—	15.0 - 30.0 %	Poly(ethylene oxide)#	Not classified
CAS # Confidential EC # Polymer	—	15.0 - 30.0 %	Polyether polyol##	Not classified
CAS # 78-40-0 EC # 201-114-5 Index 015-013-00-7	—	5.0 - 15.0 %	Triethyl phosphate	Acute Tox., 4, H302
CAS # 108-01-0 EC # 203-542-8 Index 603-047-00-0	—	1.0 - 3.0 %	2-Dimethylaminoethanol; N,N-dimethylethanolamine	Flam. Liq., 3, H224 Acute Tox., 4, H332 Acute Tox., 4, H312 Acute Tox., 4, H302 Skin Corr., 1B, H314
CAS # 811-97-2 EC # 212-377-0	—	1.0 - 3.0 %	1,1,1,2-Tetrafluoroethane#	Not classified
CAS # 3033-62-3 EC # 221-220-5	—	0.1 - < 1.0 %	Bis-(N,N-dimethylaminoethyl)ether	Acute Tox., 4, H302 Acute Tox., 3, H311 Acute Tox., 3, H331 Skin cor/irr, 1, H314 Eye cor/irr, 1, H318
CAS # 57583-34-3 EC # 260-828-5	—	0.1 - < 1.0 %	Methyltin-tris-(2-ethylhexylthioglycolate)	Acute Tox., 4, H302 Acute Tox., 4, H312 Repr., 2, H361 STOT SE, 2, H372 Aquatic Chronic, 4, H413
CAS # 57583-35-4 EC # 260-829-0	—	0.1 - < 1.0 %	Dimethyltin-bis(2-ethylhexylthioglycolate)	Acute Tox., 4, Acute Tox., 4, Skin Sens., 1, Repr., 2, H361 STOT RE, 2, H373 Aquatic Chronic, 3, H412



CAS # / EC # / Index	Amount	Component	Classification: 67/548/EEC
CAS # 25134-86-5 EC # Polymer	25.0 - 40.0 %	Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide	R52/53
CAS # 25322-68-3 EC # Polymer	15.0 - 30.0 %	Poly(ethylene oxide)#	Not classified.
CAS # Confidential EC # Polymer	15.0 - 30.0 %	Polyether polyol##	Not classified.
CAS # 78-40-0 EC # 201-114-5 Index 015-013-00-7	5.0 - 15.0 %	Triethyl phosphate	Xn: R22
CAS # 108-01-0 EC # 203-542-8 Index 603-047-00-0	1.0 - 3.0 %	2-Dimethylaminoethanol ; N,N-dimethylethanolamine	R10; Xn: R20/21/22; C: R34
CAS # 811-97-2 EC # 212-377-0	1.0 - 3.0 %	1,1,1,2-Tetrafluoroethane#	Not classified.
CAS # 3033-62-3 EC # 221-220-5	0.1 - < 1.0 %	Bis-(N,N-dimethylaminoethyl)ether	T: R23/24; C: R34; Xn: R22; R52
CAS # 57583-34-3 EC # 260-828-5	0.1 - < 1.0 %	Methyltin-tris-(2-ethylhexylthioglycolate)	Xn: R21/22; Repr. 3: R63; Muta. 3: R68; R53
CAS # 57583-35-4 EC # 260-829-0	0.1 - < 1.0 %	Dimethyltin-bis(2-ethylhexylthioglycolate)	Xn: R22; R43; T: R48/25; Repr. 3: R63; R52/53

Substance(s) with an Occupational Exposure Limit.

Voluntarily disclosed component(s).

For the full text of the H-Statements mentioned in this Section, see Section 16.

See Section 16 for full text of R-phrases.

Section 4. First-aid measures

4.1 Description of first aid measures

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Eye Contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.



Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

4.3 Indication of immediate medical attention and special treatment needed

May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Maintain adequate ventilation and oxygenation of the patient. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. This material is a cholinesterase inhibitor. Treat symptomatically. Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5. Fire Fighting Measures

5.1 Extinguishing Media

Water fog or fine spray. Do not use direct water stream. May spread fire. Carbon dioxide fire extinguishers. Dry chemical fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. General purpose synthetic foams (including AFFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

5.2 Special hazards arising from the substance or mixture

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: Carbon dioxide. Carbon monoxide. Hydrogen fluoride. Phosphorous compounds. Phosphorus oxides.

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.

5.3 Advice for firefighters

Fire Fighting Procedures: Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. 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. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. 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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Keep unnecessary and unprotected personnel from entering the area. Isolate area. Spilled material may cause a slipping hazard. 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.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Collect in suitable and properly labeled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Handling

General Handling: This material is hygroscopic in nature. Since polyols are handled together with diisocyanates, proper distinction between these two kinds of products is essential in order to avoid undesired mixing resulting in uncontrolled polymerisation. Keep equipment clean. During shipment and storage the product container must be kept closed and protected against direct sunlight. During shipment, storage, installation and use, this material should not be exposed to flame or other ignition sources. When using do not eat, drink or smoke. Avoid contact with skin and eyes. Wash thoroughly after handling.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Keep in a cool place, heat causes an increase in pressure and risk of bursting. Store in the following material(s): Carbon steel. Stainless steel. Aluminum. Polypropylene. Teflon. Polyethylene-lined container. Glass-lined container. See Section 10 for more specific information.

Storage Period: 3 Months
Storage temperature: 10 - 20 °C

7.3 Specific end uses

See the technical data sheet on this product for further information.

Section 8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure Limits

Component	List	Type	Value
Poly(ethylene oxide)	AIHA WEEL	TWA Particulate.	10 mg/m ³
1,1,1,2-Tetrafluoroethane	AIHA WEEL	TWA	4,240 mg/m ³ 1,000 ppm
	UK WEL	TWA	4,240 mg/m ³ 1,000 ppm
2-Dimethylaminoethanol; N,N-dimethylethanolamine	UK WEL	TWA	7.4 mg/m ³ 2 ppm
	UK WEL	STEL	22 mg/m ³ 6 ppm
	Dow IHG	TWA	1 ppm



Bis-(N,N-dimethylaminoethyl)ether	ACGIH	TWA	0.05 ppm	SKIN
	ACGIH	STEL	0.15 ppm	SKIN
Dimethyltin-bis(2-ethylhexylthioglycolate)	ACGIH	TWA as Sn	0.1 mg/m3	SKIN
	ACGIH	STEL as Sn	0.2 mg/m3	SKIN
	Ireland OELV	TWA as Sn	0.1 mg/m3	SKIN
	Ireland OELV	STEL as Sn	0.2 mg/m3	SKIN
	UK WEL	TWA as Sn	0.1 mg/m3	SKIN
	UK WEL	STEL as Sn	0.2 mg/m3	SKIN
Methyltin-tris-(2-ethylhexylthioglycolate)	ACGIH	TWA as Sn	0.1 mg/m3	SKIN
	ACGIH	STEL as Sn	0.2 mg/m3	SKIN
	Ireland OELV	TWA as Sn	0.1 mg/m3	SKIN
	Ireland OELV	STEL as Sn	0.2 mg/m3	SKIN
	UK WEL	TWA as Sn	0.1 mg/m3	SKIN
	UK WEL	STEL as Sn	0.2 mg/m3	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.

8.2 Exposure controls

Personal Protection

Eye/Face Protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

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. 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 chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. 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. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.



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Engineering Controls

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

Section 9. Physical and Chemical Properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical State	Liquid.
Color	Yellow
Odor	Characteristic
Odor Threshold	No test data available
pH	No test data available
Melting Point	No test data available
Freezing Point	No test data available
Boiling Point (760 mmHg)	No test data available.
Flash Point - Closed Cup	> 100 °C <i>Estimated.</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available

Flammable Limits In Air

Lower: No test data available
Upper: No test data available

Vapor Pressure

No test data available

Vapor Density (air = 1)

3.5 (1,1,1,2-tetrafluoroethane)

Specific Gravity (H₂O = 1)

1.0 - 1.04 *ASTM D891*

Solubility in water (by weight)

Moderate

Partition coefficient, n-octanol/water (log Pow)

No data available for this product. See Section 12 for individual component data.

Autoignition Temperature

No test data available

Decomposition Temperature

No test data available

Kinematic Viscosity

150 - 300 mm²/s @ 20 °C *ASTM D445*

Explosive properties

No test data available

Oxidizing properties

No test data available

9.2 Other information**Molecular Weight**

Not applicable

Section 10. Stability and Reactivity**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

10.3 Possibility of hazardous reactions

Will not occur by itself.

10.4 Conditions to Avoid: Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

10.5 Incompatible Materials: Avoid unintended contact with isocyanates. The reaction of polyols and isocyanates generates heat. Avoid contact with: Strong acids. Strong bases. Strong oxidizers. Alkali or alkaline earth metals. Copper compounds. Metal salt powder.



10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids. Polymer fragments. Alcohols.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity

Ingestion

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Single dose oral LD50 has not been determined. Estimated. LD50, Rat > 1,000 mg/kg

Dermal

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

The dermal LD50 has not been determined. Estimated. LD50, Rabbit > 2,000 mg/kg

Inhalation

Prolonged excessive exposure may cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. Based largely or completely on information for the blowing agent: In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. May cause central nervous system effects. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats).

Eye damage/eye irritation

May cause severe eye irritation. May cause moderate corneal injury. Mist may cause eye irritation. Vapor of amines may cause swelling of the cornea resulting in visual disturbances such as blurred or hazy vision. Bright lights may appear to be surrounded by halos. Effects may be delayed and typically disappear spontaneously.

Skin corrosion/irritation

Prolonged contact may cause skin irritation with local redness.

Sensitization

Skin

A component in this mixture has been shown to be a skin sensitizer.

Repeated Dose Toxicity

Contains a component which is reported to be a weak organophosphate-type cholinesterase inhibitor. Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. Contains component(s) which have been reported to cause effects on the following organs in animals: Kidney. Liver. Blood. Eye. Respiratory tract.

Chronic Toxicity and Carcinogenicity

No relevant information found.

Developmental Toxicity

For the minor component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the component(s) tested: Did not cause birth defects in laboratory animals.

Reproductive Toxicity

For the minor component(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Genetic Toxicology

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Contains component(s) which were negative in some animal genetic toxicity studies and positive in others.



Component Toxicology - Poly(ethylene oxide)

Inhalation	Typical for this family of materials. No deaths occurred at this concentration. LC50, 6 h, Aerosol, Rat > 2.5 mg/l
Component Toxicology - Triethyl phosphate	
Inhalation	LC50, 6 h, Aerosol, Rat > 2.05 mg/l
Component Toxicology - Dimethylethanolamine	
Inhalation	LC50, 4 h, Rat 1,641 ppm
Component Toxicology - 1,1,1,2-Tetrafluoroethane	
Inhalation	LC50, 4 h, Rat > 500,000 ppm
Component Toxicology - Bis-(N,N-dimethylaminoethyl)ether	
Inhalation	LC50, 6 h, Rat 117 ppm
Inhalation	LC50, 1 h, Rat 2.0 mg/l

Section 12. Ecological Information**12.1 Toxicity****Data for Component: Phenol, polymer with formaldehyde, propylene oxide and ethylene oxide**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, zebra fish (*Brachydanio rerio*), static, 96 h: 57.1 mg/l

Toxicity to Micro-organisms

EC50, OECD 209 Test; activated sludge, static, 30 min: > 200 mg/l

Data for Component: Poly(ethylene oxide)

For this family of materials: Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Data for Component: Polyether polyol

For similar material(s): Material is not classified as dangerous to aquatic organisms.

Data for Component: Triethyl phosphate

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, golden orfe (*Leuciscus idus*), static, 48 h: 2,140 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, water flea *Daphnia magna*, static, 48 h, immobilization: 350 mg/l

Aquatic Plant Toxicity

EC50, *Desmodium subspicatus* (green algae), Growth rate inhibition, 72 h: 900 mg/l

Toxicity to Micro-organisms

EC50, OECD 209 Test; activated sludge, Respiration inhibition, 30 min: > 2,985 mg/l

Data for Component: 2-Dimethylaminoethanol; N,N-dimethylethanolamine

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species). May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (*Pimephales promelas*), static, 96 h: 81 - 170 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*, 48 h, lethality: 50 - 69 mg/l

Aquatic Plant Toxicity

EbC50, alga *Scenedesmus* sp., biomass growth inhibition, 72 h: 35 mg/l

Data for Component: 1,1,1,2-Tetrafluoroethane

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).



Fish Acute & Prolonged ToxicityLC50, rainbow trout (*Oncorhynchus mykiss*), static, 96 h: 450 mg/l**Aquatic Invertebrate Acute Toxicity**EC50, water flea *Daphnia magna*, 48 h, immobilization: 980 mg/l**Data for Component: Bis-(N,N-dimethylaminoethyl)ether**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

Fish Acute & Prolonged ToxicityLC50, fathead minnow (*Pimephales promelas*), static, 96 h: 97.6 mg/l**Aquatic Invertebrate Acute Toxicity**LC50, water flea *Daphnia magna*, 48 h: 15.9 mg/l**Aquatic Plant Toxicity**EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), Growth rate inhibition, 72 h: 24 mg/l**Toxicity to Micro-organisms**

EC50; bacteria, 16 h: > 5,000 mg/l

12.2 Persistence and Degradability**Data for Component: Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide**

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
16 %	28 d	OECD 301B Test	fail

Data for Component: Poly(ethylene oxide)

For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

OECD Biodegradation Tests: For this family of materials:

Biodegradation	Exposure Time	Method	10 Day Window
48 %	28 d	OECD 301D Test	fail

Data for Component: Polyether polyol

Most polyols are expected to degrade only slowly in the environment.

Data for Component: Triethyl phosphate

Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
> 90 %	28 d	OECD 302B Test	Not applicable

Data for Component: 2-Dimethylaminoethanol; N,N-dimethylethanolamine

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
60.5 %	14 d	OECD 301C Test	Not applicable
> 90 %	13 d	OECD 302B Test	Not applicable



Data for Component: 1,1,1,2-Tetrafluoroethane

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
4 %	28 d	OECD 301D Test	fail

Data for Component: Bis-(N,N-dimethylaminoethyl)ether

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
< 60 %	28 d	OECD 301F Test	fail

12.3 Bioaccumulative potentialData for Component: Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Data for Component: Poly(ethylene oxide)

Bioaccumulation: For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Data for Component: Polyether polyol

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Data for Component: Triethyl phosphate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): 0.80 Measured

Data for Component: 2-Dimethylaminoethanol; N,N-dimethylethanolamine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -0.55 Measured

Data for Component: 1,1,1,2-Tetrafluoroethane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): 1.68 Estimated.

Data for Component: Bis-(N,N-dimethylaminoethyl)ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): -0.54 Estimated.

12.4 Mobility in soilData for Component: Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide

Mobility in soil: No relevant data found.

Data for Component: Poly(ethylene oxide)

Mobility in soil: No data available.

Data for Component: Polyether polyol

Mobility in soil: No relevant data found.

Data for Component: Triethyl phosphate

Mobility in soil: 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.

Partition coefficient, soil organic carbon/water (Koc): 48 Estimated.

Henry's Law Constant (H): 3.60E-08 atm*m3/mole; 25 °C Measured

Data for Component: 2-Dimethylaminoethanol; N,N-dimethylethanolamine

Mobility in soil: 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., Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated.



Henry's Law Constant (H): 5.16E-07 atm*m3/mole; 25 °C Estimated.

Data for Component: **1,1,1,2-Tetrafluoroethane**

Mobility in soil: Potential for mobility in soil is high (Koc between 50 and 150).

Partition coefficient, soil organic carbon/water (Koc): 97 Estimated.

Henry's Law Constant (H): 5.00E-02 atm*m3/mole; 25 °C Measured

Data for Component: **Bis-(N,N-dimethylaminoethyl)ether**

Mobility in soil: 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.

Partition coefficient, soil organic carbon/water (Koc): 20 Estimated.

Henry's Law Constant (H): 1.20E-10 atm*m3/mole; 25 °C Estimated.

12.5 Results of PBT and vPvB assessment

Data for Component: **Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide**

No relevant data found.

Data for Component: **Poly(ethylene oxide)**

No data available

Data for Component: **Polyether polyol**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

Data for Component: **Triethyl phosphate**

No relevant data found.

Data for Component: **2-Dimethylaminoethanol; N,N-dimethylethanolamine**

No relevant data found.

Data for Component: **1,1,1,2-Tetrafluoroethane**

No specific, relevant data available for assessment.

Data for Component: **Bis-(N,N-dimethylaminoethyl)ether**

No relevant data found.

12.6 Other adverse effects

Data for Component: **Phenol, polymer with formaldehyde , propylene oxide and ethylene oxide**

No relevant data found.

Data for Component: **Poly(ethylene oxide)**

No specific, relevant data available for assessment. No data available

Data for Component: **Polyether polyol**

This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Data for Component: **Triethyl phosphate**

No relevant data found.

Data for Component: **2-Dimethylaminoethanol; N,N-dimethylethanolamine**

No relevant data found.

Data for Component: **1,1,1,2-Tetrafluoroethane**

1,1,1,2-Tetrafluoroethane (HFC-134a) has a stratospheric ozone depletion potential (ODP) of zero, relative to CFC 12 (ODP=1).

Data for Component: **Bis-(N,N-dimethylaminoethyl)ether**

No relevant data found.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 91/689/EEC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.



Section 14. Transport Information

ROAD & RAIL
NOT REGULATED

OCEAN
NOT REGULATED

AIR
NOT REGULATED

INLAND WATERWAYS
NOT REGULATED

Section 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

15.2 Chemical Safety Assessment

Not applicable.

Section 16. Other Information

Other Information

CAUTION: Polyurethanes or polyisocyanurates produced from this product may present a fire hazard in certain applications if exposed to fire and/or excessive heat, e.g. welding and cutting torches, in the presence of oxygen or air.

Hazard statement in the composition section

H224	Extremely flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Risk-phrases in the Composition section

R10	Flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R21/22	Harmful in contact with skin and if swallowed.
R22	Harmful if swallowed.



R23/24	Toxic by inhalation and in contact with skin.
R34	Causes burns.
R43	May cause sensitization by skin contact.
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R52	Harmful to aquatic organisms.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R68	Possible risk of irreversible effects.

