

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : Poly(propylene glycol) bis(2-aminopropyl ether)  
Product Number : 406651  
Brand : Aldrich  
CAS-No. : 9046-10-0

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

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion (Category 1C), H314  
Serious eye damage (Category 1), H318  
Acute aquatic toxicity (Category 3), H402  
Chronic aquatic toxicity (Category 3), H412

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

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H314  
H412

Causes severe skin burns and eye damage.  
Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P264  
P273  
P280

Wash skin thoroughly after handling.  
Avoid release to the environment.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331  
P303 + P361 + P353

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340

IF INHALED: Remove victim to fresh air and keep at rest in a position

|                    |  |
|--------------------|--|
| P305 + P351 + P338 | comfortable for breathing.<br>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310               | Immediately call a POISON CENTER or doctor/ physician.   |
| P321               | Specific treatment (see supplemental first aid instructions on this label).  |
| P363               | Wash contaminated clothing before reuse.   |
| P405               | Store locked up.   |
| P501               | Dispose of contents/ container to an approved waste disposal plant.  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|         |  |
|---------|--|
| Formula | : CH <sub>3</sub> CH(NH <sub>2</sub> )CH <sub>2</sub> [OCH <sub>2</sub> CH(CH <sub>3</sub> )] <sub>n</sub> NH <sub>2</sub> |
| CAS-No. | : 9046-10-0  |

#### Hazardous components

| Component  | Classification  | Concentration |
|--|---|---------------|
| <b>O,O'-Bis(2-aminopropyl)polypropylene glycol</b> |   |               |
|  | Skin Corr. 1C; Eye Dam. 1;<br>Aquatic Acute 3; Aquatic<br>Chronic 3; H314, H412 | 90 - 100 %    |

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

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

- |   |  |
|---|--|
| a) Appearance                                   | Form: clear, viscous liquid<br>Colour: colourless                |
| b) Odour  | no data available  |
| c) Odour Threshold                              | no data available  |
| d) pH   | 11.7 at 50 g/l   |
| e) Melting point/freezing point                 | no data available  |
| f) Initial boiling point and boiling range      | 232 °C (450 °F)  |
| g) Flash point                                  | 128 °C (262 °F) - closed cup - ISO 2719                          |
| h) Evaporation rate                             | no data available  |
| i) Flammability (solid, gas)                    | no data available  |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 5 %(V)<br>Lower explosion limit: 0.7 %(V) |
| k) Vapour pressure                              | 1 hPa (1 mmHg) at 100 °C (212 °F)                                |
| l) Vapour density                               | no data available  |
| m) Relative density                             | 0.948 g/cm <sup>3</sup> at 25 °C (77 °F)                         |
| n) Water solubility                             | 100 g/l at 20 °C (68 °F) - soluble                               |
| o) Partition coefficient: n-octanol/water       | no data available  |
| p) Auto-ignition temperature                    | no data available  |
| q) Decomposition temperature                    | no data available  |
| r) Viscosity                                    | 5.46 mm <sup>2</sup> /s -  |
| s) Explosive properties                         | Not explosive  |
| t) Oxidizing properties                         | The substance or mixture is not classified as oxidizing.         |

## 9.2 Other safety information

no data available

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizing agents, acids

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 2,885.3 mg/kg

LC50 Inhalation - rat - 8 h - > 0.74 mg/l

LD50 Dermal - rabbit - 2,980 mg/kg

no data available

#### Skin corrosion/irritation

Skin - rabbit

Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - rabbit

Result: Corrosive to eyes

(OECD Test Guideline 405)

#### Respiratory or skin sensitisation

no data available

#### Germ cell mutagenicity

Animal testing did not show any mutagenic effects.

Result: Not mutagenic in Ames Test.

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Additional Information**

Repeated dose toxicity - rat - Dermal - No observed adverse effect level - 250 mg/kg

Repeated dose toxicity - rat - Oral - No observed adverse effect level - 239 mg/kg

RTECS: Not available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.,  
Cough, Shortness of breath, Headache, Nausea

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish                      semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 15 mg/l - 96 h

static test NOEC - Oncorhynchus mykiss (rainbow trout) - 15 mg/l - 96 h

Toxicity to daphnia and              static test EC50 - Daphnia - 80 mg/l - 48 h

other aquatic                              (OECD Test Guideline 202)

invertebrates

NOEC - Daphnia - 18 mg/l - 48 h

**12.2 Persistence and degradability**

Biodegradability                      Result: 0 % - According to the results of tests of biodegradability this product is  
not readily biodegradable.  
(OECD Test Guideline 301B)

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Harmful to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 2735      Class: 8      Packing group: III  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (O,O'-Bis(2-aminopropyl)polypropylene glycol)  
Reportable Quantity (RQ):  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 2735      Class: 8      Packing group: III      EMS-No: F-A, S-B  
Proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (O,O'-Bis(2-aminopropyl)polypropylene glycol)  
Marine pollutant: No

**IATA**

UN number: 2735      Class: 8      Packing group: III  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (O,O'-Bis(2-aminopropyl)polypropylene glycol)

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**15. REGULATORY INFORMATION****SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

|   | CAS-No.   | Revision Date |
|---|-----------|---------------|
| O,O'-Bis(2-aminopropyl)polypropylene glycol | 9046-10-0 |               |

**New Jersey Right To Know Components**

|   | CAS-No.   | Revision Date |
|---|-----------|---------------|
| O,O'-Bis(2-aminopropyl)polypropylene glycol | 9046-10-0 |               |

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

|                 |  |
|-----------------|--|
| Aquatic Acute   | Acute aquatic toxicity                   |
| Aquatic Chronic | Chronic aquatic toxicity                 |
| Eye Dam.        | Serious eye damage                       |
| H314            | Causes severe skin burns and eye damage. |
| H318            | Causes serious eye damage.               |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 3 |
| Chronic Health Hazard: | * |
| Flammability:          | 1 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                |   |
|----------------|---|
| Health hazard: | 3 |
|----------------|---|

Fire Hazard: 1  
Reactivity Hazard: 0

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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