

## 1 Identification

- **Product identifier**
- **Trade name:** Ethylene glycol BioChemica
- **Article number:** A3682
- **CAS Number:**  
107-21-1
- **EC number:**  
203-473-3
- **Index number:**  
603-027-00-1
- **Application of the substance / the mixture**  
Laboratory chemical  
Chemical for various applications
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
AppliChem GmbH  
Ottoweg 4  
D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

Tel.: +49 (0)6151 93570  
Fax.: +49 (0)6151 935711  
msds@appliance.com

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Acute Tox. 4 H302 Harmful if swallowed.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**  
  
  
GHS07 GHS08
- **Signal word** Warning
- **Hazard-determining components of labeling:**  
ethanediol
- **Hazard statements**  
H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
P264 Wash thoroughly after handling.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P314 Get medical advice/attention if you feel unwell.  
P330 Rinse mouth.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
107-21-1 ethanediol
- **Identification number(s)**
- **EC number:** 203-473-3
- **Index number:** 603-027-00-1

### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash off with plenty of water.  
Immediately remove any clothing soiled by the product.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
make victim drink water (maximum of 2 drinking glasses)  
Subsequently administer:  
activated charcoal (20 - 40 g in 10 % slurry)  
Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
Combustible.  
Forms explosive mixtures with air on intense heating.  
Forms explosive mixtures with air on intense heating.  
Vapours are heavier than air and may spread along floors.  
Formation of toxic gases is possible during heating or in case of fire.  
In case of fire, the following can be released:

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- CO, CO2
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Contain escaping vapours with water.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Avoid substance contact.  
Do not inhale steams/aerosols.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Clean up affected area.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep container sealed.
- **Recommended storage temperature:** 15-25 °C
- **Storage class:** 12
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

### 107-21-1 ethanediol

TLV	Short-term value: NIC-127* NIC-10** mg/m <sup>3</sup> , NIC-50* ppm Long-term value: NIC-63.5* mg/m <sup>3</sup> , NIC-25* ppm Ceiling limit value: (100) mg/m <sup>3</sup> (H); *inh. fraction + vapor, P: **inh. fraction, H
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.

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Wash hands before breaks and at the end of work.

Change contaminated clothing.

**· Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Filter A

**· Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**· For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$

**· As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm

Value for the permeation: Level  $\geq 480$

**· Eye protection:** Safety glasses

**· Body protection:**

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

**9 Physical and chemical properties**

**· Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

**Form:** Fluid

**Color:** Colorless

**· Odor:** Odorless

**· Odor threshold:** Not determined.

**· pH-value at 20 °C (68 °F):** 6-7.5

**· Change in condition**

**Melting point/Melting range:** -13 °C (9 °F)

**Boiling point/Boiling range:** 197 °C (387 °F)

**· Flash point:** 111 °C (232 °F)

**· Flammability (solid, gaseous):** Not applicable.

**· Ignition temperature:** 410 °C (770 °F)

**· Decomposition temperature:** Not determined.

**· Auto igniting:** Not determined.

**· Danger of explosion:** Product does not present an explosion hazard.

**· Explosion limits:**

**Lower:** 3 Vol %

**Upper:** 43 Vol %

**· Vapor pressure at 25 °C (77 °F):** 0.123 hPa

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- **Density at 20 °C (68 °F):** 1.11 g/cm<sup>3</sup> (9.263 lbs/gal)
  - **Relative density** Not determined.
  - **Vapor density** Not determined.
  - **Evaporation rate** Not determined.
- 
- **Solubility in / Miscibility with Water:** Fully miscible.
- 
- **Partition coefficient (n-octanol/water):** Not determined.
- 
- **Viscosity:**
  - **Dynamic at 21 °C (70 °F):** 16 mPas
  - **Kinematic:** Not determined.
- 
- **Solvent content:**
  - **Organic solvents:** 0.0 %
  - **VOC content:** 0.0 g/l / 0.00 lb/gl
  - **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
Warming. A range from approx. 15 Kelvin below the flash point is to be rated as critical.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Varios plastics  
oxidizing agent
- **Hazardous decomposition products:** In the event of fire: See chapter 5

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**

Components	Type	Value	Species
<b>107-21-1 ethanediol</b>			
Oral	LD50	7712 mg/kg	(rat)
Dermal	LD50	>3500 mg/kg	(mouse)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Slight irritation.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

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- **OSHA-Ca (Occupational Safety & Health Administration)**
- Substance is not listed.

### 12 Ecological information

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Assessment by list): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Chemicals must be disposed of in compliance with the respective national regulations.  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- |  |  |
|--|--|
| · <b>UN-Number</b>   |  |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void   |
| · <b>UN proper shipping name</b>   |  |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   | Void   |
| · <b>Transport hazard class(es)</b>  |  |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |  |
| · <b>Class</b>   | Void   |
| · <b>Packing group</b>   |  |
| · <b>DOT, ADR, IMDG, IATA</b>  | Void   |
| · <b>Environmental hazards:</b>  |  |
| · <b>Marine pollutant:</b>   | No   |
| · <b>Special precautions for user</b>  | Not applicable.                                      |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                      |
| · <b>Transport/Additional information:</b>                                       | Not dangerous according to the above specifications. |

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· UN "Model Regulation": Void

### 15 Regulatory information

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

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

107-21-1 ethanediol

A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07 GHS08

· Signal word Warning

· Hazard-determining components of labeling:

ethanediol

· Hazard statements

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

P264 Wash thoroughly after handling.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P314 Get medical advice/attention if you feel unwell.

P330 Rinse mouth.

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Dept. Compliance

· **Contact:** Mr. Th. Stöckle

· **Date of preparation / last revision** 10/07/2016 / 2

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Acute Tox. 4: Acute toxicity – Category 4*

*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

· **\* Data compared to the previous version altered.**