

# Diethylene glycol Solution

## Safety Data Sheet

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

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### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : Diethylene glycol Solution  
 Product code : AL0-130717

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
 ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation

Full text of H statements : see section 16

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

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapour  
 H302 - Harmful if swallowed  
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 - Keep container tightly closed.  
 P308+P313 - If exposed or concerned: Get medical advice/attention.  
 P270 - Do not eat, drink or smoke when using this product.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell  
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P337+P313 - If eye irritation persists: Get medical advice/attention.  
 P370+P378 - In case of fire: Use media other than water to extinguish.  
 P403+P235 - Store in a well-ventilated place. Keep cool.  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards which do not result in classification

No additional information available

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### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	Conc.
acetonitrile (Component)	(CAS-No.) 75-05-8	49.5
Diethylene glycol (Component)	(CAS-No.) 111-46-6	1

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects (acute and delayed)

- Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
- Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up in absorbent material. Collect spillage.

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### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

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

Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.

Incompatible materials : Direct sunlight.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Diethylene glycol Solution		
ACGIH	Local name	Acetonitrile
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	LRT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	70 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	40 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA
Diethylene glycol (111-46-6)		
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
acetonitrile (75-05-8)		
ACGIH	Local name	Acetonitrile
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	LRT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	70 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	40 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.

#### Hand protection:

Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration

#### Eye protection:

Chemical goggles or safety glasses. Safety glasses

#### Skin and body protection:

Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact

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### Respiratory protection:

Wear appropriate mask

### Personal protective equipment symbol(s):



### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Color	: Colorless
Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: 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

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

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### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Diethylene glycol Solution	
ATE US (oral)	1010.101 mg/kg body weight
Diethylene glycol (111-46-6)	
LD50 oral rat	19600 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral)
LD50 dermal rabbit	11890 mg/kg (Rabbit, Dermal)
LC50 inhalation rat (mg/l)	> 4.6 mg/l air (Other, 4 h, Rat, Weight of evidence, Inhalation (mist))
ATE US (oral)	19600 mg/kg body weight
ATE US (dermal)	11890 mg/kg body weight
acetonitrile (75-05-8)	
LD50 dermal rabbit	> 2000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (oral)	500 mg/kg body weight
ATE US (dermal)	1100 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

## SECTION 12: Ecological information

### 12.1. Toxicity

Diethylene glycol (111-46-6)	
LC50 fish 1	> 5000 ppm (24 h, Carassius auratus)
EC50 Daphnia 1	> 10000 mg/l (24 h, Daphnia magna)
LC50 fish 2	75200 mg/l (Other, 96 h, Pimephales promelas, Flow-through system, Experimental value)
EC50 Daphnia 2	> 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value)
acetonitrile (75-05-8)	
LC50 fish 1	1640 mg/l (Other, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Soft water)
EC50 Daphnia 1	> 1000 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)

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<b>acetonitrile (75-05-8)</b>	
ErC50 (algae)	9696 mg/l (ISO 10253, 72 h, Phaeodactylum, Static system, Salt water, Experimental value, GLP)

### 12.2. Persistence and degradability

<b>Diethylene glycol Solution</b>	
Persistence and degradability	Not established.

<b>Diethylene glycol (111-46-6)</b>	
Persistence and degradability	Biodegradable in the soil. Biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.51 g O <sub>2</sub> /g substance
ThOD	1.51 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.015

<b>acetonitrile (75-05-8)</b>	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.17 g O <sub>2</sub> /g substance
ThOD	3.12 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

<b>Diethylene glycol Solution</b>	
Bioaccumulative potential	Not established.

<b>Diethylene glycol (111-46-6)</b>	
BCF fish 1	100 (Other, 3 day(s), Leuciscus melanotus, Static system, Fresh water, Experimental value)
Log Pow	-1.98 (Calculated, Other)
Bioaccumulative potential	Not bioaccumulative.

<b>acetonitrile (75-05-8)</b>	
BCF other aquatic organisms 1	3.162 (BCFWIN, Weight of evidence)
Log Pow	-0.54 (Weight of evidence approach, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

<b>Diethylene glycol (111-46-6)</b>	
Surface tension	0.0485 N/m
Log Koc	0 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
Ecology - soil	Highly mobile in soil.

<b>acetonitrile (75-05-8)</b>	
Surface tension	0.029 N/m (20 °C)
Log Koc	0.65 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

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### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN1993 Flammable liquids, n.o.s. (acetonitrile), 3, II
UN-No.(DOT)	: UN1993
Proper Shipping Name (DOT)	: Flammable liquids, n.o.s. acetonitrile
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: II - Medium Danger
Hazard labels (DOT)	: 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Symbols	: G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling. TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F). TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
Emergency Response Guide (ERG) Number	: 128
Other information	: No supplementary information available.

#### Transportation of Dangerous Goods

Not applicable

#### Transport by sea

Transport document description (IMDG)	: UN 1993 FLAMMABLE LIQUID, N.O.S., 3, II
UN-No. (IMDG)	: 1993
Proper Shipping Name (IMDG)	: FLAMMABLE LIQUID, N.O.S.
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: 1 L

#### Air transport

Transport document description (IATA)	: UN 1993 Flammable liquid, n.o.s., 3, II
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UN-No. (IATA)	: 1993
Proper Shipping Name (IATA)	: Flammable liquid, n.o.s.
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Diethylene glycol (111-46-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### acetonitrile (75-05-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	5000 lb
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#### 15.2. International regulations

##### CANADA

##### Diethylene glycol (111-46-6)

Listed on the Canadian DSL (Domestic Substances List)

##### acetonitrile (75-05-8)

Listed on the Canadian DSL (Domestic Substances List)

##### EU-Regulations

No additional information available

##### National regulations

##### acetonitrile (75-05-8)

Listed on EPA Hazardous Air Pollutant (HAPS)

#### 15.3. US State regulations

No additional information available

### SECTION 16: Other information

Revision date	: 04/09/2019
Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Other information	: None.

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H319	Causes serious eye irritation

Phenova US SDS REV

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