SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Diethylene Glycol
Product Use Description: SOLVENT

Manufacturer or supplier's details
Company: Nexeo Solutions LLC
Address: 3 Waterway Square Place Suite 1000
         Woodlands, Tx. 77380

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3642)
Health International: 1-855-NEXEO4U (1-855-639-3642)
Transport North America: CHEMTREC 800.424.9300

Additional Information:
Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
MSDS Requests: 1-855-429-2661
MSDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral) : Category 4
Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Kidney)

GHS Label element
Hazard pictograms

Signal word : Warning
Hazard statements : H302 Harmful if swallowed.
                  H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
Precautionary statements : Prevention:
                          P260 Do not breathe dust/ fume/ gas/ mist/ vapours/spray.
Material Safety Data Sheet
Diethylene Glycol

Version 1.1  Revision Date: 07/16/2014

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P314 Get medical advice/attention if you feel unwell.

Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Potential Health Effects

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.

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.

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.

Emergency Overview

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Viscous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Sweet, very faint</td>
</tr>
<tr>
<td>Hazard Summary</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>90 - 100</td>
</tr>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

MSDS Number: 100000003092  2 / 21  Diethylene Glycol
Material Safety Data Sheet
Diethylene Glycol

Molecular formula: C4H10O3
Synonyms: DEG, Ethylene Diglycol, Diglycol, bis(2-hydroxyethyl)ether

SECTION 4. FIRST AID MEASURES

General advice: Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

If inhaled: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of eye contact: Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Induce vomiting immediately and call a physician. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

Unsuitable extinguishing media: High volume water jet

Hazardous combustion products: No hazardous combustion products are known

Specific extinguishing methods: Standard procedure for chemical fires.

Further information: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.
**Material Safety Data Sheet**

**Diethylene Glycol**

Version 1.1

Revision Date: 07/16/2014

**NFPA Flammable and Combustible Liquids Classification:**

Combustible Liquid Class IIIB

---

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Environmental precautions:**

Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods and materials for containment and cleaning up:**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

---

**SECTION 7. HANDLING AND STORAGE**

**Advice on safe handling:**

Do not breathe vapours/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

**Conditions for safe storage:**

Keep container tightly closed in a dry and well-ventilated place.
Electrical installations / working materials must comply with the technological safety standards.

---

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Components</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>US WEEL</td>
</tr>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>TLV-C</td>
<td>50 ppm 125 mg/m3</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>100 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C (Aerosol only)</td>
<td>100 mg/m3</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

**Personal protective equipment**

**Respiratory protection:**

No personal respiratory protective equipment normally
Hand protection
Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection: Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection: impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Hygiene measures: When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: viscous
Colour: colourless
Odour: sweet, very faint
Odour Threshold: No data available
pH: No data available
Freezing Point (Freezing Point): -6.5 °C (20.3 °F)
Boiling Point (Boiling point/boiling range): 245 °C (473 °F)
Flash point: 138 °C (280 °F)
Evaporation rate: No data available
Flammability (solid, gas): No data available
Burning rate: No data available
Upper explosion limit: 12.3 %(V)
Material Safety Data Sheet  
Diethylene Glycol

Version 1.1  
Revision Date: 07/16/2014

Lower explosion limit: 2.0 %(V)
Vapour pressure: 0.002 mmHg @ 20 °C (68 °F)
Relative vapour density: 3.65
Relative density: 1.118
Density: 1.18 g/cm³ @ 20 °C (68 °F)
Bulk density: No data available
Water solubility: No data available
Solubility in other solvents: No data available
Partition coefficient: n-octanol/water: log Pow: Estimated -1.98
Auto-ignition temperature: 229 °C
Thermal decomposition: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Exposure to moisture.
Incompatible materials: Strong acids
Strong bases
strong oxidizing agents

Hazardous decomposition products: May form:
Aldehydes
Alcohols
ethers
carbon dioxide and carbon monoxide
SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:
Acute oral toxicity: Acute toxicity estimate: 500 mg/kg
Method: Calculation method

Components:
111-46-6:
Acute oral toxicity: LD50 (rat): 12,565 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.
Acute dermal toxicity: LD50 (rabbit): 11,890 mg/kg

107-21-1:
Acute oral toxicity: 2,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity: LC50 (rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
GLP: yes
Acute dermal toxicity: LD50 (mouse, male and female): > 3,500 mg/kg
Remarks: Non-toxic

Skin corrosion/irritation

Components:
111-46-6:
Species: Human
Classification: Not irritating when applied to human skin.
Method: In vivo
Result: No skin irritation

107-21-1:
Species: rabbit
Exposure time: 20 h
Classification: Not irritating to skin
Method: In vivo
Result: Not irritating to skin
Material Safety Data Sheet
Diethylene Glycol

Version 1.1
Revision Date: 07/16/2014

Serious eye damage/eye irritation

Components:
111-46-6:
Species: rabbit
Result: No eye irritation
Classification: No eye irritation
Method: In vivo

107-21-1:
Species: rabbit
Result: Not irritating to eyes
Exposure time: 24 h
Classification: Not irritating to eyes
Method: In vivo

Respiratory or skin sensitisation

Components:
111-46-6:
Test Type: Maximisation Test (GPMT)
Species: guinea pig
Assessment: Does not cause skin sensitisation.
Method: In vivo
Result: Does not cause skin sensitisation.
GLP: yes

107-21-1:
Test Type: Maximisation Test (GPMT)
Species: guinea pig
Assessment: Does not cause skin sensitisation.
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Components:
111-46-6:
Genotoxicity in vitro:
Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: DNA damage and/or repair
Test species: Chinese hamster ovary (CHO)
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes
Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: mouse (male)
Cell type: Bone marrow
Application Route: Intraperitoneal
Exposure time: Single
Dose: 0, 500, 1000, 2000 mg/kg bw
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-Assessment : Did not show mutagenic effects in animal experiments.

107-21-1:
Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test species: Chinese hamster ovary (CHO)
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes

Genotoxicity in vitro : Test Type: Mammalian cell gene mutation assay
Test species: Mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative

Carcinogenicity

Components:

111-46-6:
Species: rat, (male)
Application Route: Oral
Exposure time: 108 wks
Dose: 0, 1210, 2630 mg/kg bw
NOAEL: 1,210 mg/kg body weight

Result: did not display carcinogenic properties

Species: rat, (female)
Application Route: Oral
Exposure time: 108 wks
Dose: 0, 1160, 2250 mg/kg bw
NOAEL: 1,160 mg/kg body weight

Result: did not display carcinogenic properties

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

107-21-1:
Species: mouse, (male and female)
Application Route: Oral
Exposure time: 24 mths
Dose: 0, 40, 200, 1000 mg/kg
Frequency of Treatment: daily
LOAEL: 1,000 mg/kg

Result: Ambiguous

Species: rat, (male and female)
Application Route: Oral
Exposure time: 24 mths
Dose: 0, 40, 200, 1000 mg/kg
Frequency of Treatment: daily
NOAEL: 1,000 mg/kg

Result: did not display carcinogenic properties

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

Reproductive toxicity

Components:

111-46-6:
Effects on fertility : Test Type: Two-generation study
Species: rat, male and female
Application Route: Oral
Dose: 0, 2200 mg/kg bw
General Toxicity F1: NOAEL: 2,200 mg/kg body weight
Material Safety Data Sheet
Diethylene Glycol

Fertility: NOAEL: 2,200 mg/kg body weight
Result: No reproductive effects.

Effects on foetal development:
- Species: rabbit
- Application Route: Oral
- Dose: 0, 100, 400, 1000 mg/kg bw
- Duration of Single Treatment: 13 d
- General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
- Teratogenicity: NOAEL: 1,000 mg/kg body weight
- Developmental Toxicity: NOAEL: 1,000 mg/kg body weight
- Method: OECD Test Guideline 414
- Result: No teratogenic effects.
- GLP: yes

Reproductive toxicity - Assessment:
Animal testing did not show any effects on fertility.
Did not show teratogenic effects in animal experiments.

107-21-1:
Effects on fertility:
- Test Type: Fertility
- Species: mouse, male and female
- Application Route: Oral
- Dose: 0, 500, 1000, 2000 mg/kg/day
- General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight
- General Toxicity F1: NOAEL: 1,000 mg/kg body weight
- Symptoms: Reduced fertility of F1 generation.
- Result: Embryotoxic effects and adverse effects on the offspring were detected.
- GLP: yes

Test Type: Three-generation study
- Species: rat, male and female
- Application Route: Oral
- Dose: 0, 40, 200, 1000 mg/kg
- General Toxicity - Parent: NOAEL: > 1,000 mg/kg body weight
- General Toxicity F1: NOAEL: > 1,000 mg/kg body weight
- Result: No reproductive effects.

Effects on foetal development:
- Species: rabbit
- Application Route: Oral
- Dose: 0, 100, 500, 1000, 2000 mg/kg
- Duration of Single Treatment: 10 d
- General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
Material Safety Data Sheet
Diethylene Glycol

Version 1.1

Revision Date: 07/16/2014

Teratogenicity: NOAEL: 2,000 mg/kg body weight
Developmental Toxicity: NOAEL: 2,000 mg/kg body weight
Result: No teratogenic effects.
GLP: yes

Species: rat
Application Route: inhalation (dust/mist/fume)
Dose: 0, 60, 400, 1000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 400 ppm
Teratogenicity: NOAEC: 1,000 ppm
Developmental Toxicity: NOAEC: 60 ppm
Symptoms: Specific developmental abnormalities.
Result: No teratogenic effects.

Species: mouse
Application Route: inhalation (dust/mist/fume)
Dose: 0, 60, 400, 1000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 60 ppm
Teratogenicity: NOAEC: 60 ppm
Developmental Toxicity: NOAEC: 60 ppm
Symptoms: Maternal toxicity, Malformations were observed.
Result: Teratogenic effects.

Reproductive toxicity - Assessment:

Experiments have shown reproductive toxicity effects on laboratory animals.
Teratogenic effects indicated in some animal experiments.

STOT - single exposure

Product:
No data available
Components:
No data available

STOT - repeated exposure

Product:
No data available
Components:
Material Safety Data Sheet
Diethylene Glycol

Version 1.1  Revision Date: 07/16/2014

No data available

Repeated dose toxicity

Components:

111-46-6:
Species: rat, male and female
NOAEL: 10,000 mg/kg
Application Route: Oral
Exposure time: 4 wks
Number of exposures: daily
Dose: 500, 2500, 10000, 40000 mg/kg
Group: yes
Method: OECD Test Guideline 408
GLP: yes
Symptoms: Kidney disorders

Species: rat, male and female
NOAEL: 128 mg/kg
Application Route: Oral
Exposure time: 225 d
Number of exposures: daily
Dose: 0, 64, 128, 300, 1500 mg/kg bw
Symptoms: Kidney disorders
Remarks: Information given is based on data obtained from similar substances.

Species: mouse, female
NOAEL: 3,649 mg/kg
Application Route: Dermal
Exposure time: 10 d
Number of exposures: daily
Dose: 0, 406, 1677, 3549 mg/kg bw
Remarks: Information given is based on data obtained from similar substances.

Repeated dose toxicity - Assessment

107-21-1:
Species: rat, male
NOAEL: 150 mg/kg
Application Route: Oral
Exposure time: 12 mths
Number of exposures: daily
Dose: 0, 50, 150, 300, 400 mg/kg bw
Method: OECD Test Guideline 452
Target Organs: Kidney
Symptoms: Kidney disorders

Species: dog, male
NOAEL: 2
Application Route: Dermal
Material Safety Data Sheet
Diethylene Glycol

Exposure time: 4 wks
Number of exposures: daily
Dose: 0, 2, 4 ml/kg
Method: OECD Test Guideline 410
GLP: yes
Target Organs: Kidney
Symptoms: Kidney disorders

Repeated dose toxicity - Assessment: Harmful if swallowed.

Aspiration toxicity

Product: No aspiration toxicity classification

Further information

Product: Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
111-46-6:
Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 75,200 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Test Type: static test

Toxicity to algae:
EC50 (Pseudokirchneriella subcapitata (Selenastrum capricornutum)): 6,500 - 13,000 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test
Remarks: Information given is based on data obtained from similar substances.

107-21-1:
## Material Safety Data Sheet
### Diethylene Glycol

**Version 1.1**  
**Revision Date:** 07/16/2014

### Toxicity to fish
- **LC50** (Pimephales promelas (fathead minnow)): 72,860 mg/l
- Exposure time: 96 h
- Test Type: static test

### Toxicity to daphnia and other aquatic invertebrates
- **LC50** (Daphnia magna (Water flea)): > 100 mg/l
- Exposure time: 48 h
- Test Type: static test
- Method: OECD Test Guideline 202
- GLP: yes

### Toxicity to algae
- (Pseudokirchneriella subcapitata (Selenastrum capricornutum)): 6,500 - 13,000 mg/l
- End point: Growth rate
- Exposure time: 96 h
- Test Type: static test

### Toxicity to bacteria
- **Toxicity threshold** (Pseudomonas putida): > 10,000 mg/l
- Exposure time: 16 h
- Test Type: Static
- Method: DIN 38412

## Persistence and degradability

### Components:

#### 111-46-6:
- **Biodegradability**: aerobic
- Inoculum: Activated sludge, domestic, adaption not specified
- Concentration: 45 mg/l
- Biodegradation: 90 - 100 %
- Exposure time: 28 d
- GLP: yes
- Remarks: Readily biodegradable

#### 107-21-1:
- **Biodegradability**: aerobic
- Inoculum: Activated sludge, domestic, adaption not specified
- Biodegradation: 90 - 100 %
- Exposure time: 10 d
- GLP: yes
- Remarks: Readily biodegradable

## Bioaccumulative potential

### Components:

#### 111-46-6:
Diethylene Glycol

Partition coefficient: n-octanol/water : log Pow: -1.98

**107-21-1:**
Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 0.60
Exposure time: 61 d

Partition coefficient: n-octanol/water : log Pow: -1.36

**Mobility in soil**
No data available

**Other adverse effects**
No data available

**Product:**
Regulation : 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**
Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

DOT (Department of Transportation): Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : Teratogen

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>5000</td>
<td>*</td>
</tr>
</tbody>
</table>

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard

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

SARA 313 : 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.

Clean Air Act
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>0.2 %</td>
</tr>
<tr>
<td>123-91-1</td>
<td>1,4-Dioxane</td>
<td>0.001 %</td>
</tr>
</tbody>
</table>

MSDS Number: 100000003092
Material Safety Data Sheet
Diethylene Glycol

Version 1.1 Revision Date: 07/16/2014

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F). The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>100 %</td>
</tr>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>0.2 %</td>
</tr>
<tr>
<td>123-91-1</td>
<td>1,4-Dioxane</td>
<td>0.001 %</td>
</tr>
<tr>
<td>109-86-4</td>
<td>Ethanol, 2-methoxy-</td>
<td>0.001 %</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

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

Pennsylvania Right To Know

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>90 - 100 %</td>
</tr>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>0.1 - 1 %</td>
</tr>
</tbody>
</table>

New Jersey Right To Know

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-46-6</td>
<td>Diethylene glycol</td>
<td>90 - 100 %</td>
</tr>
</tbody>
</table>

California Prop 65
WARNING! This product contains a chemical known to the State of California to cause cancer.

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>123-91-1</td>
<td>1,4-Dioxane</td>
<td></td>
</tr>
</tbody>
</table>

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>109-86-4</td>
<td>Ethanol, 2-methoxy-</td>
<td></td>
</tr>
</tbody>
</table>

The components of this product are reported in the following inventories:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1907/2006 (EU)</td>
<td>n (Negative listing) (Not in compliance with the inventory)</td>
</tr>
<tr>
<td>Switzerland. New notified substances and declared preparations</td>
<td>y (positive listing) (The formulation contains substances listed on the Swiss Inventory)</td>
</tr>
<tr>
<td>United States TSCA Inventory</td>
<td>y (positive listing)</td>
</tr>
</tbody>
</table>
### Material Safety Data Sheet
### Diethylene Glycol

**Version 1.1**

<table>
<thead>
<tr>
<th>Database Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>y (positive listing) (All components of this product are on the Canadian DSL.)</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Japan. ENCS - Existing and New Chemical Substances Inventory</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Japan. ISHL - Inventory of Chemical Substances (METI)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>y (positive listing) (On the inventory, or in compliance with the inventory)</td>
</tr>
</tbody>
</table>
Material Safety Data Sheet
Diethylene Glycol

Version 1.1  Revision Date: 07/16/2014

SECTION 16. OTHER INFORMATION

Further information

NFPA:  HMIS III:

HEALTH  FLAMMABILITY  PHYSICAL HAZARD

1*  1  0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Legacy MSDS:  R0003552

Material number:
16062073, 16062072, 16056033, 16056032, 16056031, 16056030, 16024000, 16013379, 743861, 618642, 598848, 572120, 546111, 544366, 86128, 52820, 70467, 104677, 101959, 86848, 71915, 53364, 101956, 55073, 87071, 70055, 103453, 167560, 508337, 507896, 507404, 500049, 20325, 20323, 20322, 503280

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
</tbody>
</table>
### Material Safety Data Sheet

**Diethylene Glycol**

Version 1.1  
Revision Date: 07/16/2014

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act.</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>ENCS</td>
<td>Japan, Inventory of Existing and New Chemical Substances</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>KECI</td>
<td>Korea, Existing Chemical Inventory</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Less Than or Equal To</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
</tbody>
</table>

**MSDS Number:** 100000003092

**Diethylene Glycol**