

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product identifier

**Product Name** • **Image Mate Degreaser 260**

**Product Description** • Clear liquid.

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

**Relevant identified use(s)** • Screen degreaser

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

**Manufacturer** • IKONICS Corporation  
4832 Grand Ave.  
Duluth, MN 55807  
United States  
www.ikonics.com  
sds@ikonics.com

**Telephone (General)** • (218) 628-2217

**Telephone (General)** • (800) 328-4261 - Toll free

### 1.4 Emergency telephone number

**Chemtrec** • 1-800-424-9300 - Within USA and Canada  
• +1 703-527-3887 - Outside USA and Canada (collect calls accepted)

## Section 2: Hazards Identification

### EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

### 2.1 Classification of the substance or mixture

**CLP** • Skin Irritation 2 - H315  
Skin Sensitization 1 - H317  
Serious Eye Damage 1 - H318  
Hazardous to the aquatic environment Chronic 2 - H411  
EUH208

**DSD/DPD** • Irritant (Xi)  
Sensitizer  
Dangerous to the Environment (N)  
R38, R41, R43, R51/53

### 2.2 Label Elements

**CLP**

**DANGER**



- Hazard statements**
- H315 - Causes skin irritation
  - H317 - May cause an allergic skin reaction
  - H318 - Causes serious eye damage
  - H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

- Prevention**
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
  - P264 - Wash thoroughly after handling.
  - P272 - Contaminated work clothing should not be allowed out of the workplace.
  - P273 - Avoid release to the environment.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response**
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
  - P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
  - P305+P351+P338 - 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 information.
  - P362 - Take off contaminated clothing and wash before reuse.
  - P391 - Collect spillage.

- Storage/Disposal**
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**DSD/DPD**



- Risk phrases**
- R38 - Irritating to skin.
  - R41 - Risk of serious damage to eyes.
  - R43 - May cause sensitization by skin contact.
  - R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- Safety phrases**
- S24 - Avoid contact with skin.
  - S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - S37 - Wear suitable gloves.
  - S39 - Wear eye/face protection.
  - S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
  - S57 - Use appropriate containment to avoid environmental contamination.

**2.3 Other Hazards**

- CLP**
- No data available
- DSD/DPD**
- No data available

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**UN GHS**

According to Third Revised Edition

**2.1 Classification of the substance or mixture**

- UN GHS**
- Skin Irritation 2 - H315
  - Skin Sensitization 1 - H317
  - Serious Eye Damage 1 - H318

Hazardous to the aquatic environment Chronic 2 - H411

## 2.2 Label elements

UN GHS

**DANGER**



- Hazard statements**
- H315 - Causes skin irritation
  - H317 - May cause an allergic skin reaction
  - H318 - Causes serious eye damage
  - H411 - Toxic to aquatic life with long lasting effects

### Precautionary statements

- Prevention**
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
  - P264 - Wash thoroughly after handling.
  - P272 - Contaminated work clothing should not be allowed out of the workplace.
  - P273 - Avoid release to the environment.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- Response**
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
  - P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
  - P305+P351+P338 - 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 information.
  - P362 - Take off contaminated clothing and wash before reuse.
  - P370+P378 - In case of fire: Use appropriate media for surrounding fire for extinction.
  - P391 - Collect spillage.

- Storage/Disposal**
- P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other hazards

UN GHS

- No data available

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## United States (US)

According to OSHA 29 CFR 1910.1200 HCS

### 2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Irritation 2 - H315
  - Skin Sensitization 1 - H317
  - Serious Eye Damage 1 - H318
- OSHA HCS 1994**
- Irritant
  - Flammable/Combustible Class IIIB

### 2.2 Label elements

OSHA HCS 2012

**DANGER**



- Hazard statements**
- Causes skin irritation - H315
  - May cause an allergic skin reaction - H317
  - Causes serious eye damage - H318

## Precautionary statements

- Prevention**
- Avoid breathing dust, fume, gas, mist, vapors and/or spray. - P261
  - Contaminated work clothing should not be allowed out of the workplace. - P272
  - Avoid release to the environment. - P273
  - Wash thoroughly after handling. - P264
  - Wear protective gloves/protective clothing/eye protection/face protection. - P280
- Response**
- IF ON SKIN: Wash with plenty of soap and water. - P302+P352
  - If skin irritation or rash occurs: Get medical advice/attention. - P333+P313
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
  - Immediately call a POISON CENTER or doctor/physician. - P310
  - Specific treatment, see supplemental first aid information. - P321
  - Take off contaminated clothing and wash before reuse. - P362
  - Collect spillage. - P391
- Storage/Disposal**
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

- OSHA HCS 1994**
- Irritant
  - Flammable/Combustible Class IIIA

## 2.3 Other hazards

- OSHA HCS 2012**
- No data available
- OSHA HCS 1994**
- No data available

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## Canada

### According to WHMIS

## 2.1 Classification of the substance or mixture

- WHMIS**
- Other Toxic Effects - D2B

## 2.2 Label elements

### WHMIS



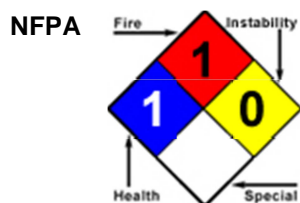
- Other Toxic Effects - D2B

## 2.3 Other hazards

- WHMIS**
- No data available

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## 2.4 Other information



### Key to abbreviations

= See Section 16 for full text of R and S phrases.

See Section 12 for Ecological Information.

## Section 3 - Composition/Information on Ingredients

### 3.1 Substances

### 3.2 Mixtures

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, branched	<b>CAS:</b> 68412-54-4	15% TO 20%		<b>OSHA HCS 1994:</b> <b>WHMIS:</b> <b>UN GHS:</b> Acute Tox. Oral 4; Eye Dam. 1; Aquatic Chronic 2; H302; H318; H411 <b>EU DSD/DPD:</b> Harmful (Xn); Irritant (Xi); Environment (N); R22; R41; R51/53 <b>EU CLP:</b> <b>OSHA HCS 2012:</b>	
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)	<b>CAS:</b> 5989-27-5 <b>EC Number:</b> 227-813-5 <b>EINECS:</b> 227-813-5	13% TO 16%	Ingestion/Oral-Rat LD50 • 4400 mg/kg Skin-Rabbit LD50 • >5 g/kg	<b>OSHA HCS 1994:</b> <b>WHMIS:</b> <b>UN GHS:</b> Skin Irrit. 2 <b>EU DSD/DPD:</b> Environment(N); Irritant(Xi); R10; R38; R43; R50; R53 <b>EU CLP:</b> Annex VI: Flam. Liq. 3; Skin Irrit. 2; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H226; H315; H317; H400; H410 <b>OSHA HCS 2012:</b>	
Diethylene glycol monobutyl ether	<b>CAS:</b> 112-34-5 <b>EC Number:</b> 203-961-6 <b>EINECS:</b> 203-961-6	5% TO 7%	Ingestion/Oral-Rat LD50 • 5660 mg/kg Skin-Rabbit LD50 • 2700 mg/kg	<b>OSHA HCS 1994:</b> Comb. Liq.; Irrit. <b>WHMIS:</b> Comb. Liq. - B3; Other Toxic Effects - D2B <b>UN GHS:</b> Eye Irrit. 2A <b>EU DSD/DPD:</b> Irritant(Xi); R36 <b>EU CLP:</b> Annex VI: Eye Irrit. 2; H319 <b>OSHA HCS 2012:</b>	
Ethoxylated octylphenol, branched	<b>CAS:</b> 68987-90-6	5% TO 7%		<b>OSHA HCS 1994:</b> <b>WHMIS:</b> <b>UN GHS:</b> Acute Tox Oral 4; Eye Dam. 1; Aquatic Chronic 2; H302; H318; H411 <b>EU DSD/DPD:</b> Xn; Xi; N; R22; R41; R51/53 <b>EU CLP:</b> <b>OSHA HCS 2012:</b>	
Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt	<b>CAS:</b> 64-02-8 <b>EC Number:</b> 200-573-9 <b>EINECS:</b> 200-573-9	3% TO 5%	Ingestion/Oral-Rat LD50 • 10 g/kg	<b>OSHA HCS 1994:</b> Irrit. <b>WHMIS:</b> Other Toxic Effects - D2B <b>UN GHS:</b> Eye Irrit. 2A; Skin Irrit. 2 <b>EU DSD/DPD:</b> Annex I: Xn; R22 Xi; R41 <b>EU CLP:</b> Annex VI: Acute Tox. 4; Eye Dam. 1; H302; H318 <b>OSHA HCS 2012:</b>	

### European Chemicals Agency – Candidate List of Substances of Very High Concern for Authorization

- Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, branched, CAS #68412-54-4; (4-Nonylphenol, branched and linear, ethoxylated); listed 2013/06/20; 15-20%.

#### Key to abbreviations

= See Section 16 for full text of R and S phrases.

See Section 11 for Toxicological Information.

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

- Inhalation**
  - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration and call 911 or emergency medical service.
- Skin**
  - IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
- Eye**
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
- Ingestion**
  - If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth. Never give anything by mouth to an unconscious person. If large quantities are swallowed, call a physician immediately.

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

- No data available

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

### Section 5 - Firefighting Measures

#### 5.1 Extinguishing media

**Suitable Extinguishing Media** • SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
LARGE FIRE: Water spray, fog or regular foam.

**Unsuitable Extinguishing Media** • No data available

**Firefighting Procedures** • Fire fighters should wear complete protective clothing including self-contained breathing apparatus.  
Keep unauthorized personnel away.  
Ventilate closed spaces before entering.  
LARGE FIRES: Use extinguishing agent suitable for type of surrounding fire.

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

**Unusual Fire and Explosion Hazards** • Some of these materials may burn, but none ignite readily.

**Hazardous Combustion Products** • Products of combustion include: carbon oxides (CO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>).

#### 5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.  
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.  
Wear positive pressure self-contained breathing apparatus (SCBA).

### Section 6 - Accidental Release Measures

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

**Personal Precautions** • Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ventilate enclosed areas.

**Emergency Procedures** • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Keep unauthorized personnel away. Ventilate closed spaces before entering.

#### 6.2 Environmental precautions

- LARGE SPILLS: Prevent entry into waterways, sewers, basements or confined areas.

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

- Containment/Clean-up Measures**
- Use appropriate Personal Protective Equipment (PPE)
  - Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container.

### 6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

- Handling**
- Use good safety and industrial hygiene practices.

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

- Storage**
- Ventilate enclosed areas.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

Exposure Limits/Guidelines						
	Result	Belgium	Denmark	Europe	Finland	France
Diethylene glycol monobutyl ether (112-34-5)	STELs	15 ppm STEL; 101.2 mg/m <sup>3</sup> STEL	Not established	15 ppm STEL; 101.2 mg/m <sup>3</sup> STEL	Not established	15 ppm STEL [VLCT] (indicative limit); 101.2 mg/m <sup>3</sup> STEL [VLCT] (indicative limit)
	TWAs	10 ppm TWA; 67.5 mg/m <sup>3</sup> TWA	10 ppm TWA; 68 mg/m <sup>3</sup> TWA	10 ppm TWA; 67.5 mg/m <sup>3</sup> TWA	10 ppm TWA; 68 mg/m <sup>3</sup> TWA	10 ppm TWA [VME] (indicative limit); 67.5 mg/m <sup>3</sup> TWA [VME] (indicative limit)
Exposure Limits/Guidelines (Con't.)						
	Result	Germany DFG	Germany TRGS	Ireland	Italy	Netherlands
Diethylene glycol monobutyl ether (112-34-5)	STELs	Not established	Not established	15 ppm STEL; 101.2 mg/m <sup>3</sup> STEL	15 ppm STEL; 101.2 mg/m <sup>3</sup> STEL	100 mg/m <sup>3</sup> STEL
	TWAs	Not established	10 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1.5); 67 mg/m <sup>3</sup> TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1.5)	10 ppm TWA; 67.5 mg/m <sup>3</sup> TWA	10 ppm TWA; 67.5 mg/m <sup>3</sup> TWA	50 mg/m <sup>3</sup> TWA
	Ceilings	15 ppm Peak; 100.5 mg/m <sup>3</sup> Peak	Not established	Not established	Not established	Not established

	MAKs	10 ppm TWA MAK; 67 mg/m <sup>3</sup> TWA MAK	Not established	Not established	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	Norway	Poland	Spain	Sweden	Switzerland
Diethylene glycol monobutyl ether (112-34-5)	MAKs	Not established	Not established	Not established	Not established	10 ppm TWA [MAK]; 67 mg/m <sup>3</sup> TWA [MAK]
	STELs	Not established	100 mg/m <sup>3</sup> STEL [NDSCh]	15 ppm STEL [VLA-EC]; 101.2 mg/m <sup>3</sup> STEL [VLA-EC]	30 ppm STV; 200 mg/m <sup>3</sup> STV	15 ppm STEL [KZW]; 101.2 mg/m <sup>3</sup> STEL [KZW]
	TWAs	10 ppm TWA; 68 mg/m <sup>3</sup> TWA	67 mg/m <sup>3</sup> TWA [NDS]	10 ppm TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and use restrictions under REACH); 67.5 mg/m <sup>3</sup> TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and use restrictions under REACH)	15 ppm LLV; 100 mg/m <sup>3</sup> LLV	Not established

## Exposure Control Notations

### Switzerland

- Diethylene glycol monobutyl ether (112-34-5): **Developmental Risk Groups:** (Developmental Risk Group C)
- Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (5989-27-5): **Developmental Risk Groups:** (Developmental Risk Group C) | **Sensitizers:** (Sensitizer)

### Norway

- Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (5989-27-5): **Sensitizers:** (Sensitizing substance)

### Netherlands

- Diethylene glycol monobutyl ether (112-34-5): **Skin:** (skin notation)

### Germany TRGS

- Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (5989-27-5): **Skin:** (skin notation)

### Germany DFG

- Diethylene glycol monobutyl ether (112-34-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (5989-27-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Sensitizers:** (skin sensitizer) | **Skin:** (skin notation)

## Exposure Limits Supplemental

### Spain

- Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (5989-27-5): **Under Review:** (20 ppm VLA-ED; 110 mg/m<sup>3</sup> VLA-ED; 40 ppm VLA-EC; 220 mg/m<sup>3</sup> VLA-EC; sen)

### ACGIH

- Diethylene glycol monobutyl ether (112-34-5): **Notice of Intended Changes (TLVs):** (10 ppm TWA (inhalable fraction and vapor); TLV basis: hematologic, liver and kidney effects)

## 8.2 Exposure controls

### Engineering Measures/Controls

- Local exhaust is recommended but not required. Provide adequate ventilation as necessary.

### Personal Protective Equipment

#### Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

#### Eye/Face

- Wear safety goggles.

#### Hands

- Wear protective gloves - rubber or neoprene.

#### Skin/Body

- Wear protective clothing - apron or other impervious body coverings.



**General Industrial Hygiene Considerations**

- Handle in accordance with good industrial hygiene and safety practice.

**Environmental Exposure Controls**

- No data available

<b>Section 9 - Physical and Chemical Properties</b>
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**9.1 Information on Physical and Chemical Properties**

<b>Material Description</b>			
Physical Form	Liquid	Appearance/Description	Clear liquid.
Color	Colorless	Odor	Citrus
Taste	Not relevant	Particulate Type	Not relevant
Particulate Size	Not relevant	Aerosol Type	Not relevant
Odor Threshold	No data available	Physical and Chemical Properties	Not relevant
<b>General Properties</b>			
Boiling Point	102 C(215.6 F) No data available	Melting Point	No data available
Decomposition Temperature	Not relevant	Heat of Decomposition	Not relevant
pH	8.5	Specific Gravity/Relative Density	1.03 Water=1
Density	8.41 lbs/gal	Bulk Density	Not relevant
Water Solubility	Dispersible	Solvent Solubility	Not relevant
Viscosity	No data available	Explosive Properties	Not relevant
Oxidizing Properties:	Not relevant		
<b>Volatility</b>			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	< 1 n-Butyl Acetate = 1	VOC (Wt.)	Not relevant
VOC (Vol.)	Not relevant	Volatiles (Wt.)	76.5 %
Volatiles (Vol.)	Not relevant		
<b>Flammability</b>			
Flash Point	> 100 C(> 212 F)	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Self-Accelerating Decomposition Temperature (SADT)	Not relevant	Heat of Combustion ( $\Delta H_c$ )	Not relevant
Burning Time	Not relevant	Flame Height	Not relevant
Flame Extension	Not relevant	Ignition Distance	Not relevant
Flame Duration	Not relevant	Flammability (solid, gas)	Not relevant
<b>Environmental</b>			
Half-Life	No data available	Octanol/Water Partition coefficient	No data available
Coefficient of water/oil distribution	No data available	Bioaccumulation Factor	No data available
Bioconcentration Factor	No data available	Biochemical Oxygen Demand BOD/BOD5	No data available
Chemical Oxygen Demand	No data available	Persistence	No data available
Degradation	No data available		

**9.2 Other Information**

- No additional physical and chemical parameters noted.

<b>Section 10: Stability and Reactivity</b>
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**10.1 Reactivity**

- No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

- Stable under normal temperatures and pressures.

### 10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

- Excess heat.

### 10.5 Incompatible materials

- None known.

### 10.6 Hazardous decomposition products

- No decomposition is expected under normal storage and use conditions. Hazardous decomposition products formed under fire conditions - carbon oxides, nitrogen oxides.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

Component Name	CAS	Data
Diethylene glycol monobutyl ether (5% TO 7%)	112-34-5	<b>Acute Toxicity:</b> orl-rat LD50:5660 mg/kg; skn-rbt LD50:2700 mg/kg; <b>Irritation:</b> eye-rbt 20 mg SEV
Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt (3% TO 5%)	64-02-8	<b>Acute Toxicity:</b> orl-rat LD50:10 gm/kg; <b>Irritation:</b> eye-rbt 100 mg/24H MOD; skn-rbt 500 mg/24H MOD
GHS Properties	Classification	
Acute toxicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Aspiration Hazard	EU/CLP• OSHA HCS 2012• UN GHS•	
Carcinogenicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Germ Cell Mutagenicity	EU/CLP• OSHA HCS 2012• UN GHS•	
Skin corrosion/Irritation	EU/CLP•Skin Irritation 2 OSHA HCS 2012•Skin Irritation 2 UN GHS•Skin Irritation 2	
Skin sensitization	EU/CLP•Skin Sensitizer 1 OSHA HCS 2012•Skin Sensitizer 1 UN GHS•Skin Sensitizer 1	
STOT-RE	EU/CLP• OSHA HCS 2012• UN GHS•	
STOT-SE	EU/CLP• OSHA HCS 2012• UN GHS•	
Toxicity for Reproduction	EU/CLP• OSHA HCS 2012• UN GHS•	
Respiratory sensitization	EU/CLP• OSHA HCS 2012• UN GHS•	
Serious eye damage/Irritation	EU/CLP•Serious Eye Damage 1 OSHA HCS 2012•Serious Eye Damage 1	

**Potential Health Effects****Inhalation****Acute (Immediate)**

- May cause irritation.

**Chronic (Delayed)**

- Repeated and prolonged exposure may cause irritation.

**Skin****Acute (Immediate)**

- Causes skin irritation. May cause an allergic skin reaction.

**Chronic (Delayed)**

- Repeated and prolonged exposure may be harmful.

**Eye****Acute (Immediate)**

- Causes serious eye damage.

**Chronic (Delayed)**

- Repeated and prolonged exposure may be harmful.

**Ingestion****Acute (Immediate)**

- May cause irritation.

**Chronic (Delayed)**

- No specific information available.

**Section 12 - Ecological Information****12.1 Toxicity**

Component	CAS	Data	Comments
Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, branched (15% TO 20%)	68412-54-4	<b>Fish:</b> 96 Hour(s) LC50 Fish 7.9 mg/L	
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R) (13% TO 16%)	5989-27-5	<b>Crustacea:</b> 48 Hour(s) EC50 Crustacea 69.6 mg/L ; <b>Fish:</b> 96 Hour(s) LC50 Fish .702 mg/L	

**12.2 Persistence and degradability**

- No data available.

**12.3 Bioaccumulative potential**

- No data available.

**12.4 Mobility in Soil**

- No data available.

**12.5 Results of PBT and vPvB assessment**

- No data available

**12.6 Other adverse effects****Section 13 - Disposal Considerations****13.1 Waste treatment methods****Product waste**

- Dispose of content in accordance with local, regional, national, and/or international regulations.

**Packaging waste**

- Dispose of container in accordance with local, regional, national, and/or international regulations.

**13.2 Other Information**

- Dispose of wastes in an approved waste disposal facility.

## Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	3082	Environmentally hazardous substance, liquid, n.o.s.	9	III	Marine Pollutant
IMO/IMDG	3082	Environmentally hazardous substance, liquid, n.o.s.	9, Environmentally Hazardous Substances	III	Marine Pollutant
IATA/ICAO	3082	Environmentally hazardous substance, liquid, n.o.s.	9, Marine	III	Chronic Aquatic Toxicity

### 14.6 Special precautions for user

- None specified.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

## Section 15 - Regulatory Information

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

#### SARA Hazard Classifications • Acute

Inventory						
Component	CAS	Australia AICS	Canada DSL	China	EU EINECS	Japan ENCS
Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, branched	68412-54-4	Yes	Yes	Yes	No	Yes
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)	5989-27-5	Yes	Yes	Yes	Yes	Yes
Diethylene glycol monobutyl ether	112-34-5	Yes	Yes	Yes	Yes	Yes
Ethoxylated octylphenol, branched	68987-90-6	Yes	Yes	Yes	No	No
Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt	64-02-8	Yes	Yes	Yes	Yes	Yes
Inventory (Con't.)						
Component	CAS	Korea KECL	New Zealand	Philippines PICCS	TSCA	
Poly(oxy-1,2-ethanediyl), .alpha.-(nonylphenyl)-.omega.-hydroxy-, branched	68412-54-4	Yes	Yes	Yes	Yes	
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)	5989-27-5	Yes	Yes	Yes	Yes	
Diethylene glycol monobutyl ether	112-34-5	Yes	Yes	Yes	Yes	
Ethoxylated octylphenol, branched	68987-90-6	Yes	Yes	Yes	Yes	
Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt	64-02-8	Yes	Yes	Yes	Yes	

## Australia

### Labor

#### Australia - High Volume Industrial Chemicals List

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7%

#### Australia - List of Designated Hazardous Substances - Classification

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Xn, Xi R22, R41
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Xi R36

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% D2B (including 39%, 50%)
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% B3, D2B

#### Canada - WHMIS - Ingredient Disclosure List

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% 1 %

## Europe

### Other

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Xn; R22 Xi; R41
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Xi; R36

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Xn R:22-41 S:(2)-26-39-46
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Xi R:36 S:(2)-24-26

#### EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% S:(2)-26-39-46
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% S:(2)-24-26

#### EU - Endocrine Disrupters (COM (2001)262) - Candidate List of Substances

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Group III Chemical
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Not Listed

#### EU - Existing Substance Regulation (793/93/EEC) - Evaluation of Existing HPV Chemicals (REPEALED)

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5%
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7%

## Germany

### Environment

#### Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% ID Number 104, hazard class 2 - hazard to waters
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% ID Number 46, hazard class 1 - low hazard to waters

## India

### Environment

#### India - Hazardous Chemical Rules - List of Hazardous and Toxic Chemicals

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7%

## Japan

### Environment

#### Inventory - Japan - Industrial Safety and Health Law Substances (ISHL)

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% 2-(8)-317; 2-(8)-99

### Other

#### Japan - Drinking Water Quality Standards - Supplied Water Quality Standard Values

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% 200 mg/L (as Na, listed under Sodium and its compounds)
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Not Listed

#### Japan - Chemical Substance Control Law (CSCL) - Examined Existing Chemical Substances

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Decomposable (see also 2-2979)

#### Japan - Fire Service Law - Hazardous Materials

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7% Group 4 - Flammable liquids III (listed under 3rd Class petroleum - soluble)

## United States

### Environment

#### U.S. - EPA - Designated Generic Categories - Certain Glycol Ethers

- Ethoxylated octylphenol, branched 68987-90-6 5% TO 7% Not Listed
- Acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt 64-02-8 3% TO 5% Not Listed
- Diethylene glycol monobutyl ether 112-34-5 5% TO 7%

## 15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## Section 16 - Other Information

### Relevant Phrases (code & full text)

- H226 - Flammable liquid and vapor
- H227 - Combustible liquid
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H319 - Causes serious eye irritation
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- H411 - Toxic to aquatic life with long lasting effects
- P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
- P261 - Avoid breathing dust, fume, gas, mist, vapors and/or spray.
- P264 - Wash thoroughly after handling.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
- P305+P351+P338 - 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 information.

P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P370+P378 - In case of fire: Use appropriate media for surrounding fire for extinction.  
P391 - Collect spillage.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.  
R10 - Flammable.  
R22 - Harmful if swallowed.  
R36 - Irritating to eyes.  
R38 - Irritating to skin.  
R41 - Risk of serious damage to eyes.  
R43 - May cause sensitization by skin contact.  
R50 - Very toxic to aquatic organisms.  
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R53 - May cause long-term adverse effects in the aquatic environment.  
S24 - Avoid contact with skin.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37 - Wear suitable gloves.  
S39 - Wear eye/face protection.  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S57 - Use appropriate containment to avoid environmental contamination.

- Classification method for mixtures** • Calculation method.
  - Last Revision Date** • 7 November 2012
  - Preparation Date** • 23 October 2013
  - Other Information** • Approved by: Troy Bergstedt, Director of Chemical Research, (218) 628-2217 ext.142.
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