## Product Information

<table>
<thead>
<tr>
<th><strong>Product Name</strong></th>
<th>Lumi-Phos HRP Chemiluminescent Reagent (Lumigen PS-atto)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Part Number</strong></td>
<td>PSA-100, PSA-1000</td>
</tr>
</tbody>
</table>

## Components

<table>
<thead>
<tr>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumi-Phos HRP Solution A Chemiluminescent Reagent (Lumigen PS-atto)</td>
</tr>
<tr>
<td>Lumi-Phos HRP Solution B Chemiluminescent Reagent (Lumigen PS-atto)</td>
</tr>
</tbody>
</table>

## Transport Information

Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.
Section 1 Identification of the Substance/mixture and of the Company/undertaking

1.1 Product Identifier
Product Name
Lumi-Phos HRP Solution A Chemiluminescent Reagent (Lumigen PS-atto)
Part Number
Component of P/N PSA-100, PSA-1000

1.2 Relevant identified uses of the substance or mixture and uses advised against
Product Use
For laboratory use only. See product literature for details.

1.3 Details of the supplier of the safety data sheet
Manufacturer
Lumigen, Inc. (A Beckman Coulter company)
22900 W. Eight Mile Road
Southfield, MI 48033, U.S.A.
Tel: 248-351-5600
e-mail address
ksrashid@beckman.com

1.4 Emergency telephone number
Telephone number (24H)
ChemTel Expert Assistance
Hotline/MSDS Fax Access by dialing 800-255-3924 or for International +01-813-248-0585

Distributor and Emergency Phone No.
Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Section 2 Hazards Identification

2.1 Classification of substance or mixture
Product Description
Mixture
Clear; Clear; Liquid; Alcohol odor

Classification according to EC 1272/2008 (CLP/GHS)
Flammable Liquids, Category 3

Classification according to EC Directives 1999/45/EC and 67/548/EEC
Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS
Flammable Liquids, Category 3
Skin Irritation Category 3
Section 2 Hazards Identification (Continued)

2.2 Label Elements

According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

Hazardous Ingredients

Ethyl Alcohol
Urea Hydrogen Peroxide

Pictogram

Signal Word

WARNING

Hazard Statements

H226 Flammable liquid and vapour.
H316 Causes mild skin irritation.

Precautionary Statements

P210 Keep away from heat, hot surfaces, and sparks. No smoking.
P233 Keep container tightly closed.
P240 Ground container and receiving equipment.
P241 Use explosion-proof electrical equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharge.
P280 Wear protective gloves, protective clothing and eye/face protection.
P303+P361+P353 IF ON SKIN (or hair): Rinse skin with water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P370+P378 In case of fire: Use water spray for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local/national regulations

Product label will display most significant precautionary statements.

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Hazardous Ingredients:</th>
<th>Hazard Classification of Pure Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>% by wt. EU-67/548/EEC EU 1272/2008 CLP/GHS GHS</td>
</tr>
<tr>
<td>Ethyl Alcohol</td>
<td>2-4 F,R11 Flam. Liq. 2 H225 Flam. Liq. 2 H225</td>
</tr>
<tr>
<td>CAS # 64-17-5</td>
<td></td>
</tr>
<tr>
<td>EINECS # 200-578-6</td>
<td></td>
</tr>
<tr>
<td>Index # 603-002-00-5</td>
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</table>
Section 3 Composition and Information on Ingredients (Continued)

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>EINECS #</th>
<th>Index #</th>
<th>Concentration</th>
<th>O;R8</th>
<th>C;R34</th>
<th>Eye Dam. 1</th>
<th>Ox. Sol. 3</th>
<th>Skin Corr. 1B</th>
<th>H272; H314; H318</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Hydrogen Peroxide</td>
<td>124-43-6</td>
<td>204-701-4</td>
<td>Not available</td>
<td>0.2-0.5</td>
<td>O; R8</td>
<td>C; R34</td>
<td>Eye Dam.</td>
<td>Ox. Sol.</td>
<td>Skin Corr. 1B</td>
<td>H272; H314; H318</td>
</tr>
</tbody>
</table>

See section 8 for available Occupational exposure limits
See Section 15 for additional regulatory information
See Section 16 for hazard class, hazard statements and risk phrase description

Section 4 First Aid Measures

4.1 Description of first aid measures

**Inhalation**
If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.

**Eye Contact**
If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.

**Skin Contact**
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If pain or irritation occur, obtain medical attention.

**Ingestion**
If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 Toxicological Information for more detailed health information. Causes mild skin irritation.

4.3 Indication of any immediate medical attention and special treatment needed

No specific medical attention or treatment required.

Section 5 Fire Fighting Measures

5.1 Extinguishing Media

In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

**Special Fire and Explosion Hazards**
Flammable liquid in aqueous solution; vapors may present fire hazard at elevated temperatures.

**Hazardous Combustion Products**
No information available.
Section 5 Fire Fighting Measures (Continued)

5.3 Advice for fire fighters
Protective Equipment
Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information
No further relevant information available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal Precautions
Observe general safety guidelines for protection; avoid eye and skin contact. Wear protective gloves, protective clothing and eye/face protection.

6.2 Environmental Precautions
No special requirements.

6.3 Methods and material for containment and cleaning up
Spill and Leak Procedures
Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections
Refer sections 8 and 13.

Section 7 Handling and Storage

7.1 Precautions for safe handling
Use good laboratory procedures; avoid eye and skin contact.

7.2 Conditions for safe storage, including any incompatibilities
Keep away from incompatible material (see Section 10). To maintain efficacy, store according to the instructions in the product labeling.

7.3 Specific end uses
No further relevant information available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters
Exposure Limits
US OSHA
Ethyl Alcohol (CAS # 64-17-5) 1000 ppm TWA; 1900 mg/m3 TWA

ACGIH
Ethyl Alcohol (CAS # 64-17-5) 1000 ppm STEL

DFG MAK
Ethyl Alcohol (CAS # 64-17-5) 1000 ppm Peak; 1920 mg/m3 Peak; 500 ppm TWA MAK; 960 mg/m3 TWA MAK

Ireland
Ethyl Alcohol (CAS # 64-17-5) 1000 ppm STEL
Section 8 Exposure Controls and Personal Protection (Continued)

<table>
<thead>
<tr>
<th>IOELVs</th>
<th>None established</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIOSH Ethyl Alcohol</td>
<td>3300 ppm IDLH (10% LEL); 1000 ppm TWA; 1900 mg/m³ TWA</td>
</tr>
<tr>
<td>Japan</td>
<td>None established</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Engineering Controls
No special engineering controls are required. Use with good general ventilation.

Eye Protection
Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.

Skin Protection
Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

Respiratory Protection
Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
<th>Specific Gravity (Water=1.0)</th>
<th>1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Clear</td>
<td>Solubility</td>
<td></td>
</tr>
<tr>
<td>Transparency</td>
<td>Clear</td>
<td>Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor</td>
<td>Organic</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>8.00 @25°C</td>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not determined</td>
<td>Auto-ignition Temp.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100°C (212°F)</td>
<td>Decomposition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash Point</td>
<td>58°C (136.4°F)</td>
<td>Percent Volatiles</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td>Vapor Pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not applicable</td>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability Limits</td>
<td>Not applicable</td>
<td>Explosive Properties</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td>Oxidizing Properties</td>
<td>Not determined</td>
</tr>
</tbody>
</table>
Section 9 Physical and Chemical Properties (Continued)

<table>
<thead>
<tr>
<th>Odor Threshold</th>
<th>Ethyl Alcohol 180 ppm geometric mean air odor threshold = (detectable); 100 ppm geometric mean air odor threshold = (recognizable)</th>
</tr>
</thead>
</table>

9.2 Other Information

No further relevant information available.

Section 10 Stability and Reactivity

10.1 Reactivity

No data available.

10.2 Chemical Stability

Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

No further relevant information available.

10.4 Conditions to Avoid

To maintain product performance keep away from strong acids, strong bases, strong oxidizers. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous Decomposition Products

No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients

<table>
<thead>
<tr>
<th>Ethyl Alcohol CAS # 64-17-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h</td>
</tr>
</tbody>
</table>

Primary Routes of Exposure

Eye contact, ingestion, inhalation, and skin contact.

Skin Corrosion/Irritation

Causes mild skin irritation.

Serious eye damage/eye irritation

No data available.

Respiratory/skin sensitization

No data available.

Carcinogenicity

No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.

Germ cell mutagenicity

No data available.

Reproductive Toxicity

No data available.

Specific target organ toxicity – single exposure

No data available.

Specific target organ toxicity – repeated exposure

No data available.
Section 11 Toxicological Information (Continued)

Aspiration hazard
No data available.

Other Information
No further relevant information available.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species
Ethyl Alcohol
CAS # 64-17-5

96 h LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 h LC50 Pimephales promelas: >100 mg/L [static]; 96 h LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]

Microtox
No information available.

Water Flea
Ethyl Alcohol
CAS # 64-17-5

48 h LC50 Daphnia magna: 9268 - 14221 mg/L; 24 h EC50 Daphnia magna: 10800 mg/L; 48 h EC50 Daphnia magna: 2 mg/L [Static]

Fresh Water Algae
No information available.

12.2 Persistence and degradability
No information available.

12.3 Bioaccumulation
No information available.

12.4 Mobility in soil
No information available.

12.5 Results of PBT and vPvB assessment
Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

12.6 Other Adverse Effects
No further relevant information available.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product Waste Disposal
Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

Package disposal
Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional information
Suggested European waste catalogue 18 01 06* - chemicals consisting of or containing dangerous substances. Dispose in accordance with national, state and local waste regulations.

Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.
Section 15 Regulatory Information

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

US Federal and State Regulations

SARA 313 No ingredients listed.

CERCLA RG’s, 40 CFR 302.4 No ingredients listed.

California Proposition 65 Ethyl Alcohol has been identified by the State of California to cause cancer and reproductive harm. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. **WARNING:** This product contains a chemical known to the State of California to cause cancer and reproductive harm.

Massachusetts MSL Ethyl Alcohol is listed.

New Jersey Dept. of Health RTK List

Ethyl Alcohol is listed.

Urea Hydrogen Peroxide is listed.

Pennsylvania RTK Ethyl Alcohol is listed.

EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

Water Hazard Class (Germany) WGK 1, low water endangering

REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization. No ingredients listed.

According to EC Directives (1999/45/EC and 67/548 EEC)

Risk and Safety Phrases

R10 Flammable.

Canada

WHMIS Classification: B2 - Flammable and Combustible Material: Flammable Liquid

PIN Not applicable

Ingredients on Ingredient Disclosure List

Ethyl Alcohol

Ingredients with unknown toxicological properties

None

15.2 Chemical Safety Assessment A Chemical Safety Assessment has not been carried out.

Some hazardous ingredients listed in Section 15 are below OSHAs and WHMIS’ 1.0% w/w (0.1% for carcinogens) or EU’s ingredient specific concentrations required for reporting in Section 3.
Section 16 Other Information

<table>
<thead>
<tr>
<th>Safety Ratings</th>
<th>Flammability: 2</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health: 1</td>
<td>0=None</td>
</tr>
<tr>
<td></td>
<td>Reactivity with Water: 0</td>
<td>1=Slight</td>
</tr>
<tr>
<td></td>
<td>Contact: 1</td>
<td>2=Caution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3=Severe</td>
</tr>
</tbody>
</table>

Revision Changes
New document

Hazard Class, hazard statements and risk phrase description from section 3

C - Corrosive
F - Highly flammable
O - Oxidising
R11 Highly flammable.
R34 Causes burns.
R8 Contact with combustible material may cause fire.
Eye Dam. 1 - Eye Damage Category 1
Flam. Liq. 2 - Flammable Liquids, Category 2
Ox. Sol. 3 - Oxidizing Solids Category 3
Skin Corr. 1B - Skin Corrosion Category 1B
H225 - Highly flammable liquid and vapour.
H272 - May intensify fire; oxidiser.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.

Abbreviations and Acronyms
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act
CLP - Classification, Labeling and Packaging
DFGMAK - Republic Germany’s maximum exposure limit
GHS - Globally Harmonized System
HCS - Hazard Communication Standard
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IOELV’s - European Unions’ Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
SARA - Superfund Amendments and Reauthorization Act
TDG - Canadian Transportation Of Dangerous Goods Regulations.
UN GHS - United Nations Globally Harmonized System
US DOT - United States Department of Transportation
Section 16 Other Information (Continued)

WHMIS - Workplace Hazardous Material Information System
vPvB - Very persistent and very bioaccumulative substances
LC50 - Lethal Concentration, 50%

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For further information, please contact your local Lumigen representative.

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Section 1 Identification of the Substance/mixture and of the Company/undertaking

1.1 Product Identifier
   - Product Name: Lumi-Phos HRP Solution B Chemiluminescent Reagent (Lumigen PS-atto)
   - Part Number: Component of P/N PSA-100, PSA-1000

1.2 Relevant identified uses of the substance or mixture and uses advised against
   - Product Use: For laboratory use only. See product literature for details.

1.3 Details of the supplier of the safety data sheet
   - Manufacturer: Lumigen, Inc. (A Beckman Coulter company)
     22900 W. Eight Mile Road
     Southfield, MI 48033, U.S.A.
     Tel: 248-351-5600
   - e-mail address: ksrashid@beckman.com

1.4 Emergency telephone number
   - Telephone number (24H): ChemTel Expert Assistance
     Hotline/MSDS Fax Access by dialing 800-255-3924 or for International +01-813-248-0585

   Distributor and Emergency Phone No.
   Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Section 2 Hazards Identification

2.1 Classification of substance or mixture
   - Product Description: Mixture
     Pale yellow; Clear; Liquid; Ammonia-like
   - Classification according to EC 1272/2008 (CLP/GHS):
     Not classified as hazardous per EC 1272/2008 (CLP/GHS)
   - Classification according to EC Directives 1999/45/EC and 67/548/EEC:
     Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)
   - Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS:
     Not classified as hazardous per US-OSHA HCS 2012 and UN GHS

2.2 Label Elements
   - According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS:
     Not classified as hazardous per EC 1272/2008 (CLP/GHS)
Section 2 Hazards Identification (Continued)

2.3 Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

Section 3 Composition and Information on Ingredients

3.2 Mixtures

Hazardous Ingredients: None

Section 4 First Aid Measures

4.1 Description of first aid measures

Inhalation: If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.

Eye Contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.

Skin Contact: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If pain or irritation occur, obtain medical attention.

Ingestion: If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 Toxicological Information for more detailed health information.

4.3 Indication of any immediate medical attention and special treatment needed

No specific medical attention or treatment required.

Section 5 Fire Fighting Measures

5.1 Extinguishing Media

In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam. For large fires use extinguishing media suitable for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Special Fire and Explosion Hazards

No special hazards determined.

Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product.
Section 5 Fire Fighting Measures (Continued)

5.3 Advice for fire fighters
   Protective Equipment
   Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

5.4 Additional information
   No further relevant information available.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
   Personal Precautions
   Observe general safety guidelines for protection; avoid eye and skin contact.
   Wear protective gloves, protective clothing and eye/face protection.

6.2 Environmental Precautions
   No special requirements.

6.3 Methods and material for containment and cleaning up
   Spill and Leak Procedures
   Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4 Reference to other sections
   Refer sections 8 and 13.

Section 7 Handling and Storage

7.1 Precautions for safe handling
   Use good laboratory procedures; avoid eye and skin contact.

7.2 Conditions for safe storage, including any incompatibilities
   Keep away from incompatible material (see Section 10).
   To maintain efficacy, store according to the instructions in the product labeling.

7.3 Specific end uses
   No further relevant information available.

Section 8 Exposure Controls and Personal Protection

8.1 Control parameters
   Exposure Limits
   US OSHA
   None established
   ACGIH
   None established
   DFG MAK
   None established
   Ireland
   None established
   IOELVs
   None established
   NIOSH
   None established
   Japan
   None established

8.2 Exposure controls
   Engineering Controls
   No special engineering controls are required. Use with good general ventilation.
Section 8 Exposure Controls and Personal Protection (Continued)

Eye Protection  
Safety glasses or chemical goggles should be worn to prevent eye contact. Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.

Skin Protection  
Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

Respiratory Protection  
Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

Section 9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Specific Gravity (Water=1.0)</td>
<td>1.0</td>
</tr>
<tr>
<td>Color</td>
<td>Pale yellow</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water</td>
</tr>
<tr>
<td>Transparency</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammonia-like</td>
</tr>
<tr>
<td>pH</td>
<td>8.00 @25°C</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition Temp.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>100°C (212°F)</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Percent Volatiles</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability Limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2 Other Information  
No further relevant information available.

Section 10 Stability and Reactivity

10.1 Reactivity  
No data available.

10.2 Chemical Stability  
Stable under normal temperatures and pressures.
Section 10 Stability and Reactivity (Continued)

10.3 Possibility of hazardous reactions
No further relevant information available.

10.4 Conditions to Avoid
To maintain product performance keep away from strong acids, strong bases, strong oxidizers. Avoid exposure to heat and direct sunlight.

10.5 Incompatible materials
No further relevant information available.

10.6 Hazardous Decomposition Products
No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

Section 11 Toxicological Information

11.1 Information on toxicological effects

Toxicity Data for Hazardous Ingredients
Not applicable

Primary Routes of Exposure
Eye contact, ingestion, inhalation, and skin contact.

Skin Corrosion/Irritation
No data available.

Serious eye damage/eye irritation
No data available.

Respiratory/skin sensitization
No data available.

Carcinogenicity
No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.

Germ cell mutagenicity
No data available

Reproductive Toxicity
No data available.

Specific target organ toxicity – single exposure
No data available.

Specific target organ toxicity – repeated exposure
No data available.

Aspiration hazard
No data available.

Other Information
No further relevant information available.

Section 12 Ecological Information

12.1 Ecotoxicity

Fresh Water Species
No information available.

Microtox
No information available.
Section 12 Ecological Information (Continued)

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2</td>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>12.3</td>
<td>Bioaccumulation</td>
</tr>
<tr>
<td>12.4</td>
<td>Mobility in soil</td>
</tr>
<tr>
<td>12.5</td>
<td>Results of PBT and vPvB assessment</td>
</tr>
</tbody>
</table>

No information available.

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

No further relevant information available.

Section 13 Disposal Considerations

13.1 Waste treatment methods

Product Waste Disposal

Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

Package disposal

Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

13.2 Additional information

Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.

Section 15 Regulatory Information

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

US Federal and State Regulations

SARA 313

Methanol is subject to reporting requirements of Section 313, Title III of SARA. 1.0 % de minimis concentration

CERCLA RG’s, 40 CFR 302.4

Methanol is listed.

California Proposition 65

Methanol has been identified by the State of California to cause reproductive harm. The State of California has adopted a regulation which requires a warning be given to individual who may be exposed to chemicals identified by the State to cause cancer or reproductive harm. **WARNING:** This product contains a chemical known to the State of California to cause reproductive harm. 

Massachusetts MSL

Methanol is listed.
Section 15 Regulatory Information (Continued)

New Jersey Dept. of Health RTK List
Methanol is listed.

Pennsylvania RTK
Methanol is listed.

EU Regulations
This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.
Water Hazard Class (Germany) WGK 1, low water endangering
REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.
No ingredients listed.

According to EC Directives (1999/45/EC and 67/548 EEC)
Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Canada
This product does not meet WHMIS criteria for hazardous materials.

PIN
Not applicable

Ingredients on Ingredient Disclosure List
Methanol

Ingredients with unknown toxicological properties
None

15.2 Chemical Safety Assessment  A Chemical Safety Assessment has not been carried out.
Some hazardous ingredients listed in Section 15 are below OSHAs and WHMIS’ 1.0% w/w (0.1% for carcinogens) or EU’s ingredient specific concentrations required for reporting in Section 3.

Section 16 Other Information

<table>
<thead>
<tr>
<th>Safety Ratings</th>
<th>Flammability: 0</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health: 1</td>
<td>0=None</td>
</tr>
<tr>
<td></td>
<td>Reactivity with Water: 0</td>
<td>1=Slight</td>
</tr>
<tr>
<td></td>
<td>Contact: 1</td>
<td>2=Caution</td>
</tr>
</tbody>
</table>

Revision Changes
New document

Abbreviations and Acronyms
ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act
CLP - Classification, Labeling and Packaging
DFGMAK - Republic Germany’s maximum exposure limit
GHS - Globally Harmonized System
HCS - Hazard Communication Standard
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
Section 16 Other Information (Continued)

IOELVs - European Unions’ Indicative Occupational Exposure Limit Values
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent bioaccumulative and toxic substances
SARA - Superfund Amendments and Reauthorization Act
TDG - Canadian Transportation Of Dangerous Goods Regulations.
UN GHS - United Nations Globally Harmonized System
US DOT - United States Department of Transportation
WHMIS - Workplace Hazardous Material Information System
vPvB - Very persistent and very bioaccumulative substances

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