SECTION 1: COMPANY AND PRODUCT INFORMATION

1.1 Product identifiers
Product name : PEG 4000 (Polyethylene glycol)
Product code : 41600044
CAS number : 25322-68-3
Synonyms : Not Available

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : For research and laboratory use only.

1.3 Details of the supplier of the safety data sheet
Address : 4150 Tuller Rd. 
          Suite 228
          Dublin, OH 43017
Email : tech@bio-world.com
Phone : 614-792-8680, Toll free: 1-888-bio-PLUS
Fax : 614-792-8685

1.4 Emergency telephone number
Emergency phone : 1-888-bio-PLUS

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture
Substance/mixture is not classified as hazardous.

2.2 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Not classified as hazardous under the GHS.

2.3 Label elements and precautionary statements
Pictogram : None
Signal word : None
Hazard statement(s) : No applicable hazard statements.
Precautionary statement(s) : No applicable precautionary statements.

2.4 Hazards not otherwise classified (HNOC) or not covered by GHS
No unclassified hazards known.

2.5 NFPA Rating
Health hazard : 0
Fire hazard : 0
Reactivity hazard : 0
HMIS Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard</td>
<td>0</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>-</td>
</tr>
<tr>
<td>Reactivity hazard</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS#</th>
<th>EC#</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol</td>
<td>25322-68-3</td>
<td>500-038-2</td>
<td>95-100%</td>
</tr>
<tr>
<td>M.F: (C₂H₄O)ₙH₂O M.W: ~4000 g/mol</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 Hazardous components & classification

No chemicals or constituents are known to be present that require disclosure under applicable regulations.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice
Consult a physician if symptoms are severe or persistent. Provide this data sheet to medical personnel. If product is spilled or leaked, evacuate area.

In case of inhalation
If inhaled, move person to fresh air and monitor breathing. If not breathing, give artificial ventilation. Consult a physician if symptoms are severe or persistent.

In case of skin contact
Immediately wash with excess soap and water. If spilled on clothing, remove all affected clothing. Consult a physician if symptoms are severe or persistent.

In case of eye contact
Flush eyes with water or eye wash solution as a precaution for 15 minutes. Consult a physician if symptoms are severe or persistent.

In case of ingestion
Only induce vomiting if recommended by medical personnel. If subject is unconscious, do not give anything by mouth. If conscious, rinse mouth with water. Consult a physician if symptoms are severe or persistent.

4.2 Most important symptoms and effects, both acute and delayed
All known important symptoms are described in Section 2 and/or Section 11. No other important symptoms to report.

4.3 Indication of any immediate medical attention and special treatment needed
No special treatment indicated. Provide treatment in accordance with exhibited systems.

SECTION 5: FIREFIGHTING MEASURES
5.1 Suitable extinguishing media
Water spray, alcohol-resistant foam, dry chemical, and carbon dioxide extinguishers are suitable.

5.2 Unsuitable extinguishing media
No known unsuitable extinguishing media.

5.3 Special hazards arising from the substance
Carbon oxides.

5.4 Advice for firefighters
Wear protective gear, such as self-contained breathing apparatus, if necessary

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Provide suitable ventilation. Use any necessary personal protective equipment. Avoid contact with skin and eyes, and avoid creation and inhalation of vapor or dust. Keep all unnecessary personnel away.
For personal protection see section 8

6.2 Environmental precautions
No environmental precautions required.

6.3 Methods and material for containment and cleaning up
Use inert absorbent material to absorb any spilled or leaked product. Keep in suitable, closed containers for disposal.
For proper disposal see section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice.
For precautions see section 2

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions: Store upright, closed container in arid, ventilated environment.
Incompatible materials: Strong oxidizing agents and strong acids/bases are incompatible with this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Polyethylene glycol (~ MW 4000); CAS No.: 25322-68-3
TWA: 10.000000 mg/m3. Basis: USA. Workplace Environmental Exposure Levels (WEEL).

8.2 Engineering controls
Follow good industrial hygiene and safety practices when handling product.

8.3 Personal protective equipment
Eye/face protection: Use only government-approved safety glasses with side-shields.
Skin protection: Use gloves when handling product. Inspect gloves before use to ensure suitability for use. Remove without exposing skin to the gloves outer surface. Discard used gloves according to all pertinent laws and/or current good practices (cGXP). Wash hands with soap and water.

Body protection: Wear appropriate clothing. Ensure clothing is in good condition, with no holes or tears. When selecting clothing, consider the concentration and amount of substance to be handled.

Respiratory protection: Use only approved respirators and components which comply with CDC and NIOSH (US) or CEN (EU) regulations. Required only when vapors or aerosols are created.

Control of environmental exposure: No environmental precautions required.

General hygiene considerations: Comply with general industrial hygiene practice guidelines.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: White
b) Physical states: Solid
c) Odor: Not available
d) Odor threshold: Not available
e) Melting point: 58-61°C
f) Boiling point range: > 200°C
g) pH: Not available
h) Density: Not available
i) Flash point: 229°C - Closed Cup
j) Evaporation rate: Not available
k) Flammability: Not available
l) Upper/lower flammability or explosive limits: Not available
m) Vapor pressure: < 0.01 hPa (< 0.01 mmHg) @ 20°C
n) Vapor density: Not available
o) Relative density: Not available
p) Water solubility: Not available
q) Partition coefficient:n-octanol/water: Not available
r) Autoignition temperature: Not available
s) Decomposition temperature: Not available
t) Kinematic viscosity: Not available
u) Explosive properties: Not available
SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No special reactivity is known.

10.2 Chemical stability
Product is stable when stored and used as recommended.

10.3 Stability note(s)
No special or unusual instability known.

10.4 Polymerization
No known polymerization.

10.5 Possibility of hazardous reactions
No hazardous reactions are known.

10.6 Incompatible materials
Strong oxidizing agents and strong acids/bases are incompatible with this product.

10.7 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute toxicity
LD50 Oral : Rat - > 15,000 mg/kg

LD50 Dermal : No toxicity data available.

LC50 Inhalation : No toxicity data available.

11.2 Skin corrosion/irritation
Causes mild skin irritation (Rabbit)

11.3 Serious eye damage/eye irritation
Causes mild eye irritation (Rabbit)

11.4 Respiratory or skin sensitization
No sensitization data available.

11.5 Germ cell mutagenicity
No mutagenicity data available.

11.6 Carcinogenicity
IARC : Product and components are not regulated by the IARC.

ACGIH : Product and components are not regulated by the ACGIH.

NTP : Product and components are not regulated by the NTP.
OSHA: Product and components are not regulated by OSHA.

11.7 Reproductive toxicity
No reproductive toxicity data available.

11.8 Specific target organ toxicity – single exposure
No specific organ toxicity data available.

11.9 Specific target organ toxicity – repeated exposure
No specific organ toxicity data available.

11.10 Aspiration hazard
No aspiration hazard data available.

11.11 Additional Information
RTECS: TQ3500000.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No ecological toxicity data available.

12.2 Aquatic toxicity
No aquatic toxicity data available.

12.3 Persistence and degradability
No persistence/degradability data available.

12.4 Bioaccumulative potential
No bioaccumulation data available.

12.5 Mobility in soil
No soil mobility data available.

12.6 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment is not required/was not conducted.

12.7 Other adverse effect
No other adverse effect data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Product
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult and adhere to local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

13.2 Packaging
Packaging should be disposed of in the same manner as unused product.

13.3 Recommendation
Disposal must be made according to official regulations.

SECTION 14: TRANSPORTATION INFORMATION

14.1 DOT (US)
Not a dangerous good under DOT(US) regulations.
14.2 IMDG
Not a dangerous good under IMDG regulations.

14.3 IATA
Not a dangerous good under IATA regulations.

SECTION 15: REGULATORY INFORMATION

15.1 SARA
SARA 302: This product and components are not subject to the reporting requirements of SARA Title III, Section 302.
SARA 313: This product does not contain any components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.
SARA 311/312: No SARA Hazard

15.2 Clean water act (CWA)
No chemicals are present in this product that are subject to regulation under the Clean Water Act.

15.3 Right to know components

Massachusetts: No chemicals are present which require disclosure under the Massachusetts Right to Know Act.

Pennsylvania: Polyethylene glycol ~ MW 4000 CAS No.: 25322-68-3

New Jersey: Polyethylene glycol ~ MW 4000 CAS No.: 25322-68-3

California proposition 65 components: This product contains no chemicals which are known to the State of California to cause cancer, or birth defects or other reproductive harm.

SECTION 16: OTHER INFORMATION

16.1 Disclaimer
This product is offered by bioWORLD for research, laboratory or further manufacturing use. Not for human use or consumption. The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchant-ability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall bio-WORLD.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if bio-WORLD.com has been advised of the possibility of such damages.

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16.2 Preparation Information
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