SAFETY DATA SHEET
Protein Determination BSA Standard

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Code: 704003
Product Name: Protein Determination BSA Standard

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

1.3 Details of the Supplier of the Safety Data Sheet:
Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108
Web site address: www.caymanchem.com
Information: +1 (734)971-3335

1.4 Emergency telephone number:
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 Classification of the Substance or Mixture:

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]:
Acute Toxicity: Oral, Category 4

2.1.2 Classification according to Directive 1999/45/EC:
Xn: Harmful
Risk Phrases: R22
For full text of R- phrases: see SECTION 15.

2.2 Label Elements:

2.2.1 Labeling according to Regulation (EC) No 1272/2008 [CLP]:

GHS Signal Word: Warning
GHS Hazard Phrases:
H302: Harmful if swallowed.

GHS Precaution Phrases:
P264: Wash {hands} thoroughly after handling.

GHS Response Phrases:
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330: Rinse mouth.

GHS Storage and Disposal Phrases:
Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.2.2 Labeling according to Directive 1999/45/EC:

Xn
2.3 Adverse Human Health Harmful if swallowed.

Effects and Symptoms: Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation or skin absorption.

May cause eye, skin, or respiratory system irritation.

The toxicological properties of this product have not been fully evaluated.

Section 3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>Risk Phrases/ GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9048-46-8 MT6446000</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>1.0 %</td>
<td>232-936-2 NA</td>
<td>Xn; R22 Acute Tox.(O) 4: H302</td>
</tr>
<tr>
<td>7647-14-5 VZ4725000</td>
<td>Sodium chloride</td>
<td>0.9 %</td>
<td>231-598-3 NA</td>
<td>Xi; R36 Eye Damage 2A: H319</td>
</tr>
<tr>
<td>26628-22-8 VY8050000</td>
<td>Sodium azide</td>
<td>0.05 %</td>
<td>247-852-1 011-004-00-7</td>
<td>T+; N; R28-32-50/53 Acute Tox.(O) 2: H300 Acute Tox.(D) 1: H310 TOST (RE) 2: H373 Aquatic (C) 1: H410</td>
</tr>
<tr>
<td>7732-18-5 ZC0110000</td>
<td>Water</td>
<td>98.05 %</td>
<td>231-791-2 NA</td>
<td>No phrases apply. No data available.</td>
</tr>
</tbody>
</table>

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Media: Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards:

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures: Avoid breathing vapors and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning Up: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>TWA: 0.1 mg/m3 ()</td>
<td>STEL: 0.3 mg/m3 ()</td>
<td>TWA: 0.1 mg/m3</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
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<tbody>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>PEL: 10 ppm</td>
<td>TLV: 10 ppm</td>
<td>No data.</td>
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<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>No data.</td>
<td>CEIL: 0.29 mg/m3</td>
<td>No data.</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

- **Eye Protection:** Safety glasses
- **Protective Gloves:** Compatible chemical-resistant gloves
- **Other Protective Clothing:** Lab coat
- **Respiratory Equipment:** NIOSH approved respirator, as conditions warrant.
  *(Specify Type):*
- **Work/Hygienic/Maintenance Practices:** Do not take internally.
  Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
  Wash thoroughly after handling.
Section 9. Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: [ ] Gas    [ X ] Liquid    [ ] Solid
Appearance and Odor: Solution
Melting Point: No data.
Boiling Point: No data.
Flash Pt: No data.
Evaporation Rate: No data.
Explosive Limits: LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg): No data.
Vapor Density (vs. Air = 1): No data.
Specific Gravity (Water = 1): No data.
Solubility in Water: No data.
Autoignition Pt: No data.

9.2 Other Information
Percent Volatile: No data.

Section 10. Stability and Reactivity

10.1 Reactivity: No data available.
10.2 Stability: Unstable [ ] Stable [ X ]
10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Polymerization: Will occur [ ] Will not occur [ X ]
10.4 Conditions To Avoid: No data available.
10.5 Incompatibility - Materials To Avoid: No data available.
10.6 Hazardous Decomposition Or Byproducts: No data available.

Section 11. Toxicological Information

11.1 Information on Toxicological Effects: The toxicological effects of this product have not been thoroughly studied.
Carcinogenicity: NTP? No    IARC Monographs? No    OSHA Regulated? No

Section 12. Ecological Information

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

Section 13. Disposal Considerations

13.1 Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.
Section 14. Transport Information

14.1 LAND TRANSPORT (US DOT):
   DOT Proper Shipping Name: Not dangerous goods.
   DOT Hazard Class:
   UN/NA Number:

14.1 LAND TRANSPORT (European ADR/RID):
   ADR/RID Shipping Name: Not dangerous goods.
   UN Number:
   Hazard Class:

14.3 AIR TRANSPORT (ICAO/IATA):
   ICAO/IATA Shipping Name: Not dangerous goods.
   Additional Transport Information: Transport in accordance with local, state, and federal regulations.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>Yes 500 LB</td>
<td>Yes 1000 LB</td>
<td>Yes</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>9048-46-8</td>
<td>Bovine Serum Albumin (BSA)</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7647-14-5</td>
<td>Sodium chloride</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>26628-22-8</td>
<td>Sodium azide</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No</td>
</tr>
</tbody>
</table>

European Community Hazard Symbol codes:

Xn

European Community Risk and Safety Phrases:

R22  Harmful if swallowed.
S24/25  Avoid contact with skin and eyes.
S37/39  Wear suitable gloves and eye/face protection.

Regulatory Information Statement:

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.
| Revision Date: | 11/06/2013 |
|--------------------------------|
| Additional Information About This Product: | No data available. |
| Company Policy or Disclaimer: | DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability 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. |
| | N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required |
# SAFETY DATA SHEET
Protein Determination Assay Reagent

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

<table>
<thead>
<tr>
<th>1.1</th>
<th>Product Code:</th>
<th>704004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Product Name:</td>
<td>Protein Determination Assay Reagent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2</th>
<th>Relevant identified uses of the substance or mixture and uses advised against:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relevant identified uses: For research use only, not for human or veterinary use.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3</th>
<th>Details of the Supplier of the Safety Data Sheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Company Name: Cayman Chemical Company</td>
</tr>
<tr>
<td></td>
<td>1180 E. Ellsworth Rd.</td>
</tr>
<tr>
<td></td>
<td>Ann Arbor, MI 48108</td>
</tr>
<tr>
<td></td>
<td>Web site address: <a href="http://www.caymanchem.com">www.caymanchem.com</a></td>
</tr>
<tr>
<td></td>
<td>Information: +1 (734)971-3335</td>
</tr>
</tbody>
</table>

### Section 2. Hazards Identification

<table>
<thead>
<tr>
<th>2.1</th>
<th>Classification of the Substance or Mixture:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.1</td>
<td>Classification according to Regulation (EC) No 1272/2008 [CLP]:</td>
</tr>
<tr>
<td></td>
<td>Flammable Liquids, Category 2</td>
</tr>
<tr>
<td></td>
<td>Acute Toxicity: Inhalation, Category 3</td>
</tr>
<tr>
<td></td>
<td>Acute Toxicity: Oral, Category 3</td>
</tr>
<tr>
<td></td>
<td>Acute Toxicity: Skin, Category 3</td>
</tr>
<tr>
<td></td>
<td>Skin Corrosion/Irritation, Category 1B</td>
</tr>
<tr>
<td></td>
<td>Target Organ Systemic Toxicity (single exposure), Category 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.1.2</th>
<th>Classification according to Directive 1999/45/EC:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C: Corrosive</td>
</tr>
<tr>
<td></td>
<td>F: Highly Flammable</td>
</tr>
<tr>
<td></td>
<td>T: Toxic</td>
</tr>
<tr>
<td></td>
<td>Risk Phrases: R11, R23/24/25, R34, R39/23/24/25</td>
</tr>
<tr>
<td></td>
<td>For full text of R- phrases: see SECTION 15.</td>
</tr>
</tbody>
</table>

| 2.2 | Label Elements: |

<table>
<thead>
<tr>
<th>2.2.1</th>
<th>Labeling according to Regulation (EC) No 1272/2008 [CLP]:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GHS Signal Word: Danger</td>
</tr>
</tbody>
</table>

**GHS Hazard Phrases:**

- H225: Highly flammable liquid and vapor.
- H331: Toxic if inhaled.
- H301: Toxic if swallowed.
- H311: Toxic in contact with skin.
- H314: Causes severe skin burns and eye damage.
- H370: Causes damage to organs (eyes).
GHS Precaution Phrases:
P210: Keep away from {heat/sparks/open flames/hot surfaces}. - No smoking.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.
P261: Avoid breathing {dust/fume/gas/mist/vapours/spray}.
P264: Wash {hands} thoroughly after handling.
P361+364: Take off immediately all contaminated clothing and wash it before reuse.
P260: Do not breathe {dust/fume/gas/mist/vapours/spray}.

GHS Response Phrases:
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P311: Call a {POISON CENTER/doctor/...}.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330: Rinse mouth.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P312: Call a {POISON CENTER/doctor/...} if you feel unwell.
P321: Specific treatment {see ... on this label}.
P363: Wash contaminated clothing before reuse.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+330+331: IF SWALLOWED: Immediate call a {POISON CENTER/doctor/...}.
P307+311: IF exposed: Call a POISON CENTER or doctor/physician.

GHS Storage and Disposal Phrases:
No phrases apply.

2.2.2 Labeling according to Directive 1999/45/EC:

2.3 Adverse Human Health
Causes severe skin burns and eye damage.
Effects and Symptoms: Causes damage to organs {eyes}.
- Harmful vapors.
- Material may be irritating to the mucous membranes and upper respiratory tract.
- May be fatal or cause blindness if swallowed.
- May cause eye, skin, or respiratory system irritation.
- Toxic if swallowed, inhaled, or absorbed through the skin.
- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

<table>
<thead>
<tr>
<th>CAS # / RTECS #</th>
<th>Hazardous Components (Chemical Name)/ REACH Registration No.</th>
<th>Concentration</th>
<th>EC No./ EC Index No.</th>
<th>Risk Phrases/ GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>30.0 -40.0 %</td>
<td>200-659-6</td>
<td>F; T; R11-23/24/25-39/23/24/25</td>
</tr>
<tr>
<td>PC14000000</td>
<td></td>
<td></td>
<td>603-001-00-X</td>
<td>Flamm. Liq. 2: H225 Acute Tox.(O) 3: H301</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox.(D) 3: H311</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox.(I) 3: H331</td>
</tr>
</tbody>
</table>

Multi-region format
Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Important Symptoms and Effects, Both Acute and Delayed:

Inhalation may result in inflammation, edema, and chemical pneumonitis. Inhalation may cause coughing, burns, possible breathing difficulty. Overexposure may cause: confusion, dermatitis, headache, drowsiness, dizziness, gastrointestinal disturbance, optic nerve damage (blindness), nausea, unconsciousness, vomiting, visual disturbance, weakness. May cause convulsions. Once methanol is absorbed into the body, it is very slowly eliminated. Prolonged or repeated skin contact may cause dermatitis. Symptoms may be delayed.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers. A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards:

Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. Sensitive to static discharge. Vapors can travel to a source of ignition and flash back.

Flash Pt: No data.
Explosive Limits: LEL: No data. UEL: No data.
Autoignition Pt: No data.

5.3 Fire Fighting Instructions:

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes. Note: Flammable as diluted in methanol.
Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures:

- Avoid breathing vapors and provide adequate ventilation.
- As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions:

- Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning Up:

- Contain spill and collect, as appropriate.
- Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling:

- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Avoid prolonged or repeated exposure.
- Keep away from sources of ignition.
- Take precautionary measures against static discharge.

7.2 Precautions To Be Taken in Storing:

- Keep away from heat, sparks, and flame.
- Keep container tightly closed.
- Store in accordance with information listed on the product insert.

Other Precautions:

- Hygroscopic.

Section 8. Exposure Controls/Personal Protection

8.1 Exposure Parameters:

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>TWA: 266 mg/m3 (200 ppm) STEL: 333 mg/m3 (250 ppm)</td>
<td>TWA: 260 mg/m3 (200 ppm) STEL: 1300 mg/m3 (1000 ppm)</td>
<td>TWA: 260 mg/m3</td>
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<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>TWA: 1 mg/m3 (0.2 ppm) STEL: 2 mg/m3 (0.5 ppm)</td>
<td>TWA: 1 mg/m3 STEL: 2 mg/m3</td>
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<tr>
<td>NA</td>
<td>Protein Determination Assay Reagent</td>
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<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Partial Chemical Name</th>
<th>OSHA TWA</th>
<th>ACGIH TWA</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>PEL: 1 mg/m3</td>
<td>TLV: 1 mg/m3 STEL: 3 mg/m3</td>
<td>No data.</td>
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<tr>
<td>NA</td>
<td>Protein Determination Assay Reagent</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls:

8.2.1 Engineering Controls (Ventilation etc.):

- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 Personal protection equipment:

- Eye Protection: Safety glasses
- Protective Gloves: Compatible chemical-resistant gloves
- Other Protective Clothing: Lab coat
- Respiratory Equipment: NIOSH approved respirator, as conditions warrant.

Work/Hygienic/Maintenance Practices:

- Do not take internally.
- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
### Section 9. Physical and Chemical Properties

#### 9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical States</td>
<td>[ ] Gas  [ X ] Liquid  [ ] Solid</td>
</tr>
<tr>
<td>Appearance and Odor</td>
<td>Solution</td>
</tr>
<tr>
<td>Melting Point</td>
<td>No data</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data</td>
</tr>
<tr>
<td>Flash Pt</td>
<td>No data</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>LEL: No data  UEL: No data</td>
</tr>
<tr>
<td>Vapor Pressure (vs. Air or mm Hg)</td>
<td>No data</td>
</tr>
<tr>
<td>Vapor Density (vs. Air = 1)</td>
<td>No data</td>
</tr>
<tr>
<td>Specific Gravity (Water = 1)</td>
<td>No data</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>No data</td>
</tr>
<tr>
<td>Autoignition Pt</td>
<td>No data</td>
</tr>
</tbody>
</table>

#### 9.2 Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Volatile</td>
<td>No data</td>
</tr>
</tbody>
</table>

### Section 10. Stability and Reactivity

#### 10.1 Reactivity:

No data available.

#### 10.2 Stability:

Unstable [ ]  Stable [ X ]

#### 10.3 Stability Note(s):

Stable if stored in accordance with information listed on the product insert.

#### 10.4 Conditions To Avoid:

heat, flames and sparks

#### 10.5 Incompatibility - Materials To Avoid:

- acids
- acid anhydrides
- acid chlorides
- bases
- alkali metals
- highly reactive metals
- oxidizing agents
- reducing agents
- strong mineral acids
- strong oxidizing agents

#### 10.6 Hazardous Decomposition Or Byproducts:

- carbon dioxide
- carbon monoxide
- hydrogen gas
- phosphorus oxides
### Section 11. Toxicological Information

#### 11.1 Information on Toxicological Effects:

The toxicological effects of this product have not been thoroughly studied.

- Methanol - Toxicity Data:
  - Oral LD50 (rat): 5,600 mg/kg; Oral LD50 (rabbit): 14,200 mg/kg;
  - Inhalation LC50 (rat): 64,000 ppm (4h); Inhalation LC50 (mouse): 61,100 ppm (134 m);
  - Skin LD50 (rabbit): 15,800 mg/kg; Oral LDLO (human): 143 mg/kg;
- Methanol - Irritation Data:
  - Skin (rabbit): 20 mg (24h) moderate; Eyes (rabbit): 40 mg moderate; Eyes (rabbit): 100 mg (24h) moderate;
- Phosphoric acid - Toxicity Data:
  - Oral LD50 (rat): 1.25 g/kg; Oral LD50 (mouse): 1.25 g/kg;
  - Inhalation LC50 (rat): 25.5 mg/m3;

**Chronic Toxicological Effects:**

Methanol - Investigated as a mutagen and reproductive effector.

Phosphoric acid - Investigated as a mutagen.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

- Methanol RTECS Number: PC1400000
- Phosphoric acid RTECS Number: TB6300000

**Carcinogenicity:**

NTP? No  IARC Monographs? No  OSHA Regulated? No

### Section 12. Ecological Information

#### 12.1 Toxicity:

Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

### Section 13. Disposal Considerations

#### 13.1 Waste Disposal Method:

Dispose in accordance with local, state, and federal regulations.

### Section 14. Transport Information

#### 14.1 LAND TRANSPORT (US DOT):

- **DOT Proper Shipping Name:** Flammable liquid, corrosive, n.o.s. (methanol, phosphoric acid)
- **DOT Hazard Class:** 3 (8)  FLAMMABLE LIQUID, CORROSIVE
- **UN/NA Number:** 2924  Packing Group: II

#### 14.1 LAND TRANSPORT (European ADR/RID):

- **ADR/RID Shipping Name:** Flammable liquid, corrosive, n.o.s. (methanol, phosphoric acid)
- **UN Number:** 2924  Packing Group: II
- **Hazard Class:** 3 (8) - FLAMMABLE LIQUID, CORROSIVE

#### 14.3 AIR TRANSPORT (ICAO/IATA):

- **ICAO/IATA Shipping Name:** Flammable liquid, corrosive, n.o.s. (methanol, phosphoric acid)
- **UN Number:** 2924  Packing Group: II
- **Hazard Class:** 3 (8) - FLAMMABLE LIQUID, CORROSIVE
- **IATA Classification:** 3, 8

**Additional Transport Information:**

Transport in accordance with local, state, and federal regulations.
### Section 15. Regulatory Information

#### EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>S. 302 (EHS)</th>
<th>S. 304 RQ</th>
<th>S. 313 (TRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>Yes</td>
</tr>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>No</td>
</tr>
<tr>
<td>NA</td>
<td>Protein Determination Assay Reagent</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Hazardous Components (Chemical Name)</th>
<th>Other US EPA or State Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-56-1</td>
<td>Methanol</td>
<td>CAA HAP,ODC: HAP; CWA NPDES: No; TSCA: Inventory; CA PROP.65: Yes</td>
</tr>
<tr>
<td>7664-38-2</td>
<td>Phosphoric acid</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: Inventory; CA PROP.65: No</td>
</tr>
<tr>
<td>NA</td>
<td>Protein Determination Assay Reagent</td>
<td>CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No</td>
</tr>
</tbody>
</table>

#### European Community Hazard Symbol codes:

- **C**: Flammable
- **F**: Toxic by inhalation, in contact with skin and if swallowed
- **T**: Causes burns

#### European Community Risk and Safety Phrases:

- **R11**: Highly flammable.
- **R23/24/25**: Toxic by inhalation, in contact with skin and if swallowed.
- **R34**: Causes burns.
- **R39/23/24/25**: Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
- **S7**: Keep container tightly closed.
- **S16**: Keep away from sources of ignition.
- **S24/25**: Avoid contact with skin and eyes.
- **S26**: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- **S36/37/39**: Wear suitable protective clothing, gloves and eye/face protection.
- **S45**: In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)

#### Regulatory Information Statement:

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

### Section 16. Other Information

**Revision Date:** 11/06/2013

**Additional Information About This Product:** No data available.

**Company Policy or Disclaimer:**

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