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

Product Code: 10004302
Product Name: Goat Anti-Mouse IgG HRP
Synonyms: Horseradish Peroxidase-Conjugated Goat Anti-Mouse IgG;

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

Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
Alternate Emergency Contact: CHEMTREC Outside USA and Canada: +1 (703)527-3887
Information: Cayman Chemical Company +1 (734)971-3335
Web site address: www.caymanchem.com

2. Hazards Identification

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Placard</th>
<th>Key word</th>
<th>GHS Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Eye Damage/Eye Irritation, Category 2A</td>
<td>Exclamation point</td>
<td>Warning</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>Acute Toxicity: Oral, Category 5</td>
<td>none</td>
<td>Warning</td>
<td>May be harmful if swallowed</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation, Category 3</td>
<td>none</td>
<td>Warning</td>
<td>Causes mild skin irritation</td>
</tr>
</tbody>
</table>

GHS Hazard Phrases:
H319: Causes serious eye irritation
H303: May be harmful if swallowed.
H316: Causes mild skin irritation.

GHS Precaution Phrases:
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/clothing and eye/face protection as specified by the manufacturer/supplier or the competent authority.

GHS Response Phrases:
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists, get medical advice/attention.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P332+313: If skin irritation occurs, get medical advice/attention.

GHS Storage and Disposal Phrases: No data available.

Potential Health Effects (Acute and Chronic):
Causes mild skin irritation.
Causes serious eye irritation.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause respiratory irritation.

Target Organs: No data available.

Medical Conditions Generally Aggravated By Exposure: No data available.
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
<th>EC#</th>
<th>Risk Phrases</th>
<th>RTECS #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>0.45 %</td>
<td>NA</td>
<td>No phrases apply.</td>
<td>NA</td>
</tr>
<tr>
<td>2. Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>34.0 %</td>
<td>232-936-2</td>
<td>No phrases apply.</td>
<td>MT6446000</td>
</tr>
<tr>
<td>3. Sodium chloride</td>
<td>7647-14-5</td>
<td>33.55 %</td>
<td>231-598-3</td>
<td>R36</td>
<td>VZ4725000</td>
</tr>
<tr>
<td>4. Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>32.0 %</td>
<td>231-448-7</td>
<td>R36</td>
<td>WC4500000</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures:

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: To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Signs and Symptoms Of Exposure: No data available.

Indication of any immediate medical attention and special treatment needed: None.

5. Fire Fighting Measures

Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

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

Flammable Properties and Hazards: No data available.

Flash Pt: No data.

Autoignition Pt: No data available.

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

Hazardous Combustion Products: No data available.

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.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures: Avoid raising and breathing dust, 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).

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

Steps To Be Taken In Case Material Is Released Or Spilled: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

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

Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.
8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Britain EH40</th>
<th>France VL</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
<tr>
<td>Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>

Protective Equipment Summary - Hazard Label Information:

Compatible chemical-resistant gloves  Eye wash station in work area  Lab coat  Safety glasses  Safety shower in work area  Vent Hood

Engineering Controls (Ventilation etc.):

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

Eye Protection:

Safety glasses

Protective Gloves:

Compatible chemical-resistant gloves

Other Protective Clothing:

Lab coat

Respiratory Equipment (Specify Type):

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.

Wash thoroughly after handling.

Environmental Exposure Controls:

No data available.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical States:  [ ] Gas  [ ] Liquid  [ X ] Solid

Appearance and Odor:  A lyophilized powder

Melting Point:  No data.

Boiling Point:  No data.

Flash Pt:  No data.

Evaporation Rate:  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.

Explosive Properties:  No data available.

Oxidizing Properties:  No data available.

Other Information

Percent Volatile:  No data.
10. Stability and Reactivity

Reactivity: No data available.

Stability: Unstable [ ] Stable [ X ]

Stability Note(s): Stable if stored in accordance with information listed on the product insert.

Conditions To Avoid: No data available.

Polymerization: Will occur [ ] Will not occur [ X ]

Incompatibility - Materials To Avoid: No data available.

Hazardous Decomposition Or Byproducts: No data available.

11. Toxicological Information

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

Chronic Toxicological Effects: No data available.

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>NTP</th>
<th>IARC</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>2. Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>3. Sodium chloride</td>
<td>7647-14-5</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>4. Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Carcinogenicity: NTP? No  IARC Monographs? No  OSHA Regulated? No

12. Ecological Information

General Ecological Information: Avoid release into the environment.

Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name: Not dangerous goods.

LAND TRANSPORT (European ADR/RID)

ADR/RID Shipping Name: Not dangerous goods.

AIR TRANSPORT (ICAO/IATA)

ICAO/IATA Shipping Name: Not dangerous goods.

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

European Community Hazard Symbol codes

No data available.

European Community Risk and Safety Phrases

S24/25 - Avoid contact with skin and eyes.

S37/39 - Wear suitable gloves and eye/face protection.

US EPA SARA Title III

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>3. Sodium chloride</td>
<td>7647-14-5</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>4. Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>No</td>
<td>Yes 5000 LB</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
Other US EPA or State Lists

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>CAA HAP,ODC</th>
<th>CWA NPDES</th>
<th>TSCA</th>
<th>CA PROP.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goat Anti-Mouse IgG HRP</td>
<td>NA</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>2. Bovine Serum Albumin (BSA)</td>
<td>9048-46-8</td>
<td>No</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
</tr>
<tr>
<td>3. Sodium chloride</td>
<td>7647-14-5</td>
<td>No</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
</tr>
<tr>
<td>4. Sodium phosphate, Dibasic</td>
<td>7558-79-4</td>
<td>No</td>
<td>No</td>
<td>Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>


16. Other Information

Company Policy or Disclaimer

For research use only, not for human or veterinary use.

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