



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse Ig, Human ads-UNLB |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|--------------------|--|------------|
| Boric Acid | (CAS No.) 10043-35-3 / [EINECS(EC#)] 201-191-5 | 0.6% |
| Sodium Tetraborate | (CAS No.) 1303-96-4 / [EINECS(EC#)] 215-540-4 | 0.95% |
| Sodium Chloride | (CAS No.) 7647-14-5 / [EINECS(EC#)] 231-598-3 | 0.4% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

No special hazards determined

Hazardous thermal decomposition products

No specific data

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be

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taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: As a precautionary measure, treat spilled material with a 1:10 bleach/water solution. Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Comply with applicable waste disposal regulations.

Large spill: As a precautionary measure, treat spilled material with a 1:10 bleach/water solution. Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage

Precautions for safe handling

Precautions for safe handling: This product should be handled as though capable of transmitting infectious diseases. Universal precautions should be followed when using this product. Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

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SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|--------------------|-----------|-------|----------------------|------------|
| Sodium Tetraborate | 1303-96-4 | TWA | 5 mg/m ³ | USA. NIOSH |
| | | | 10 mg/m ³ | MAC (NL) |
| | | | 10 mg/m ³ | TLV (US) |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Conditions to avoid

No specific data

Incompatible materials

No specific data

Hazardous decomposition products

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

Other information

When using, do not eat, drink, or smoke. May contain material of animal origin.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

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Appearance

| | |
|---|--|
| Physical state | : Liquid |
| Color | : Clear |
| Odor | : Not available |
| Odor threshold | : Not available |
| pH | : ~8.2 |
| Melting point | : Not available |
| Boiling point | : Not available |
| Flash Point | : Not available |
| Burning time | : Not applicable |
| Burning rate | : Not applicable |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower and upper explosive (flammable) limits | : Not available |
| Vapor pressure | : Not available |
| Vapor density | : Not available |
| Relative density | : Not available |
| Solubility | : Soluble in the following materials: cold water and hot water. |
| Partition coefficient n-octanol/water | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| SADT | : Not available |
| Viscosity | : Not available |

Other information

No additional information available

SECTION 10: Stability and reactivity

| | |
|---|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. This material is hygroscopic. |
| Chemical Stability | The product is stable under recommended storage conditions. |
| Possibility Of Hazardous Reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions To Avoid | No specific data |
| Incompatible Materials | Zirconium, strong acids, metallic salts |
| Hazardous Decomposition Products | No specific data |

SECTION 11: Toxicological information**Information on toxicological effects**

| | |
|---|---|
| Acute toxicity | No data available |
| Conclusion/Summary: | To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated. |
| Skin corrosion/irritation: | No data available |
| Serious eye damage/irritation: | No data available |
| Respiratory or skin sensitization: | No data available |
| Germ cell mutagenicity: | No data available |

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Boric acid (CAS# 10043-35-3) has been identified in 1272/2008/EC as a category 2 Reproductive toxin. This product contains Boric acid at below the hazard concentration limit (<5.5%).
Sodium Tetraborate (CAS# 1303-96-4) has been identified in 1272/2008/EC as a category 2 Reproductive toxin. This product contains Sodium Tetraborate at below the hazard concentration limit (<8.5%).

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within users premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA: All components are listed or exempted.

Clean Water Act (CWA) 311: All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

State regulations

New York

Sodium Tetraborate 1303-96-4

Pennsylvania

Sodium Tetraborate 1303-96-4

Minnesota

Sodium Tetraborate 1303-96-4

Rhode Island

Sodium Tetraborate 1303-96-4

Canada inventory All components are listed or exempted.

International regulations

International lists Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: All components are listed or exempted.

Korea inventory: All components are listed or exempted.

Malaysia Inventory (EHS Register): Not determined.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

SECTION 16: Other information

Indication of changes : 30-Apr-15

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard

NFPA fire hazard : 0 - Not combustible

NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard

Flammability : 0 - Minimal Hazard

Physical : 0 - Minimal Hazard



While SouthernBiotech (d.b.a. Southern Biotechnology Associates, Inc.) believes the information contained herein is valid and accurate, SouthernBiotech makes no warranty or representation as to its validity, accuracy, or currency. SouthernBiotech shall not be liable or otherwise responsible in any way for use of either this information or materials to which it applies. Disposal of Hazardous materials may be subject to local laws or regulations.

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SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse Ig, Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | |
| Physical state | : Liquid |
| Color | : Light amber to dark amber |
| Odor | : Not available |
| Odor threshold | : Not available |
| pH | : Not available |
| Melting point | : Not available |
| Boiling point | : Not available |
| Flash Point | : Not available |
| Burning time | : Not applicable |
| Burning rate | : Not applicable |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower and upper explosive (flammable) limits | : Not available |
| Vapor pressure | : Not available |
| Vapor density | : Not available |
| Relative density | : Not available |
| Solubility | : Soluble in the following materials: cold water and hot water. |
| Partition coefficient n-octanol/water | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| SADT | : Not available |
| Viscosity | : Not available |

Other information

No additional information available

SECTION 10: Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical Stability | The product is stable. |
| Possibility Of Hazardous Reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions To Avoid | No specific data. |
| Incompatible Materials | Strong oxidizers |
| Hazardous Decomposition Products | No specific data. |

SECTION 11: Toxicological information

Information on toxicological effects

| | |
|----------------|-------------------|
| Acute toxicity | No data available |
|----------------|-------------------|

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Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

Toxicity No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects No data available

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances Not listed

Clean Air Act Section 602 Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

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DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

- Australia inventory (AICS): All components are listed or exempted.
- China inventory (IECSC): All components are listed or exempted.
- Japan inventory: All components are listed or exempted.
- Korea inventory: All components are listed or exempted.
- Malaysia Inventory (EHS Register): All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
- Philippines inventory (PICCS): All components are listed or exempted.
- Taiwan inventory (CSNN): All components are listed or exempted.

| | |
|---|------------|
| Chemical Weapons Convention List Schedule I | Not listed |
| Chemical Weapons Convention List Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SDS US (GHS HazCom) - US Only



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgM, Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid

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environmental contamination. Recommended storage temperature: 2 - 8(C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|--------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m3 | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do not let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387)

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respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Conditions to avoid

No specific data

Incompatible materials

No specific data

Hazardous decomposition products

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

Other information

When using, do not eat, drink, or smoke. May contain material of animal origin.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

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Acute toxicity No data available

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

Toxicity No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Other adverse effects No data available

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602 Class I Substances

Not listed

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| | |
|---|------------|
| Clean Air Act Section 602 Class II Substances | Not listed |
| DEA List I Chemicals (Precursor Chemicals) | Not listed |
| DEA List II Chemicals (Essential Chemicals) | Not listed |

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

| | |
|----------------|-----------------------|
| Classification | Chronic health hazard |
|----------------|-----------------------|

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

| | |
|------------------|--|
| Canada inventory | All components are listed or exempted. |
|------------------|--|

International regulations

| | |
|---------------------|--|
| International lists | Australia inventory (AICS): All components are listed or exempted. |
| | China inventory (IECSC): All components are listed or exempted. |
| | Japan inventory: All components are listed or exempted. |
| | Korea inventory: All components are listed or exempted. |
| | Malaysia Inventory (EHS Register): All components are listed or exempted. |
| | New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted. |
| | Philippines inventory (PICCS): All components are listed or exempted. |
| | Taiwan inventory (CSNN): All components are listed or exempted. |

| | | |
|----------------------------------|------------------------|------------|
| Chemical Weapons Convention List | Schedule I | Not listed |
| Chemical Weapons Convention List | Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List | Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

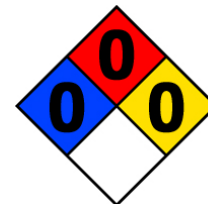
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GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



While SouthernBiotech (d.b.a. Southern Biotechnology Associates, Inc.) believes the information contained herein is valid and accurate, SouthernBiotech makes no warranty or representation as to its validity, accuracy, or currency. SouthernBiotech shall not be liable or otherwise responsible in any way for use of either this information or materials to which it applies. Disposal of Hazardous materials may be subject to local laws or regulations.

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SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgG ₁ , Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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Email: info@southernbiotech.com • **Website:** www.southernbiotech.com

SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

| | |
|---|--|
| U.S. Federal regulations | TSCA 8(a) CDR Exempt/Partial exemption: Not determined United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate |
| Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Not listed |
| Clean Air Act Section 602 Class I Substances | Not listed |
| Clean Air Act Section 602 Class II Substances | Not listed |
| DEA List I Chemicals (Precursor Chemicals) | Not listed |

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DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: All components are listed or exempted.
 Korea inventory: All components are listed or exempted.
 Malaysia Inventory (EHS Register): All components are listed or exempted.
 New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.
 Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

SECTION 16: Other information

Indication of changes : 30-Apr-15

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgG _{2a} , Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed
Clean Air Act Section 602 Class I Substances Not listed
Clean Air Act Section 602 Class II Substances Not listed
DEA List I Chemicals (Precursor Chemicals) Not listed

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DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: All components are listed or exempted.
 Korea inventory: All components are listed or exempted.
 Malaysia Inventory (EHS Register): All components are listed or exempted.
 New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.
 Taiwan inventory (CSNN): All components are listed or exempted.

| | |
|---|------------|
| Chemical Weapons Convention List Schedule I | Not listed |
| Chemical Weapons Convention List Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



While SouthernBiotech (d.b.a. Southern Biotechnology Associates, Inc.) believes the information contained herein is valid and accurate, SouthernBiotech makes no warranty or representation as to its validity, accuracy, or currency. SouthernBiotech shall not be liable or otherwise responsible in any way for use of either this information or materials to which it applies. Disposal of Hazardous materials may be subject to local laws or regulations.

SDS US (GHS HazCom) - US Only



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgG _{2b} , Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|-----------------|---|------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

| | |
|---|--|
| U.S. Federal regulations | TSCA 8(a) CDR Exempt/Partial exemption: Not determined United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate |
| Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Not listed |
| Clean Air Act Section 602 Class I Substances | Not listed |
| Clean Air Act Section 602 Class II Substances | Not listed |
| DEA List I Chemicals (Precursor Chemicals) | Not listed |

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DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

- Australia inventory (AICS): All components are listed or exempted.
- China inventory (IECSC): All components are listed or exempted.
- Japan inventory: All components are listed or exempted.
- Korea inventory: All components are listed or exempted.
- Malaysia Inventory (EHS Register): All components are listed or exempted.
- New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
- Philippines inventory (PICCS): All components are listed or exempted.
- Taiwan inventory (CSNN): All components are listed or exempted.

| | |
|---|------------|
| Chemical Weapons Convention List Schedule I | Not listed |
| Chemical Weapons Convention List Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgG ₃ , Human ads-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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Email: info@southernbiotech.com • **Website:** www.southernbiotech.com

SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance**Physical state**

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility: Soluble in the following materials:
cold water and hot water.**Partition coefficient n-octanol/water**

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

| | |
|---|------------|
| Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Not listed |
| Clean Air Act Section 602 Class I Substances | Not listed |
| Clean Air Act Section 602 Class II Substances | Not listed |
| DEA List I Chemicals (Precursor Chemicals) | Not listed |

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DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: All components are listed or exempted.
 Korea inventory: All components are listed or exempted.
 Malaysia Inventory (EHS Register): All components are listed or exempted.
 New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.
 Taiwan inventory (CSNN): All components are listed or exempted.

| | |
|---|------------|
| Chemical Weapons Convention List Schedule I | Not listed |
| Chemical Weapons Convention List Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse IgA-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed
Clean Air Act Section 602 Class I Substances Not listed
Clean Air Act Section 602 Class II Substances Not listed
DEA List I Chemicals (Precursor Chemicals) Not listed

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DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

Sodium Phosphate 7558-79-4

Glycerol 56-81-5

New York

Sodium Phosphate 7558-79-4

Massachusetts

Sodium Phosphate 7558-79-4

Pennsylvania

Sodium Phosphate 7558-79-4

Glycerol 56-81-5

California

Sodium Phosphate 7558-79-4

Minnesota

Glycerol 56-81-5

Rhode Island

Glycerol 56-81-5

Canada inventory All components are listed or exempted.

International regulations

International lists Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: All components are listed or exempted.

Korea inventory: All components are listed or exempted.

Malaysia Inventory (EHS Register): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

SECTION 16: Other information

Indication of changes : 30-Apr-15

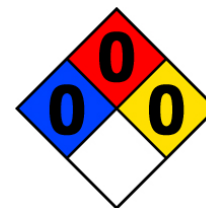
Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SDS US (GHS HazCom) - US Only



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse Kappa-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

| | |
|--|--|
| Physical state | : Liquid |
| Color | : Light amber to dark amber |
| Odor | : Not available |
| Odor threshold | : Not available |
| pH | : Not available |
| Melting point | : Not available |
| Boiling point | : Not available |
| Flash Point | : Not available |
| Burning time | : Not applicable |
| Burning rate | : Not applicable |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower and upper explosive (flammable) limits | : Not available |
| Vapor pressure | : Not available |
| Vapor density | : Not available |
| Relative density | : Not available |
| Solubility | : Soluble in the following materials: cold water and hot water. |
| Partition coefficient n-octanol/water | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| SADT | : Not available |
| Viscosity | : Not available |

Other information

No additional information available

SECTION 10: Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical Stability | The product is stable. |
| Possibility Of Hazardous Reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions To Avoid | No specific data. |
| Incompatible Materials | Strong oxidizers |
| Hazardous Decomposition Products | No specific data. |

SECTION 11: Toxicological information

Information on toxicological effects

| | |
|----------------|-------------------|
| Acute toxicity | No data available |
|----------------|-------------------|

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Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed
Clean Air Act Section 602 Class I Substances Not listed
Clean Air Act Section 602 Class II Substances Not listed
DEA List I Chemicals (Precursor Chemicals) Not listed

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Email: info@southernbiotech.com • **Website:** www.southernbiotech.com

DEA List II Chemicals (Essential Chemicals)

Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: All components are listed or exempted.
 Korea inventory: All components are listed or exempted.
 Malaysia Inventory (EHS Register): All components are listed or exempted.
 New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.
 Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapons Convention List Schedule I Not listed

Chemical Weapons Convention List Schedule II Chemicals Not listed

Chemical Weapons Convention List Schedule III Chemicals Not listed

SECTION 16: Other information

Indication of changes : 30-Apr-15

Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



While SouthernBiotech (d.b.a. Southern Biotechnology Associates, Inc.) believes the information contained herein is valid and accurate, SouthernBiotech makes no warranty or representation as to its validity, accuracy, or currency. SouthernBiotech shall not be liable or otherwise responsible in any way for use of either this information or materials to which it applies. Disposal of Hazardous materials may be subject to local laws or regulations.

SDS US (GHS HazCom) - US Only



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | Goat Anti-Mouse Lambda-HRP |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Liquid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards none

Unknown acute toxicity (GHS US) No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--|----------------|
| Substance/Mixture | Mixture |
| Other Means of Identification | Not available |
| <u>CAS Number/other identifiers</u> | |
| CAS Number | Not applicable |

| Ingredient Name | Product Identifier | Percentage |
|------------------------|---|-------------------|
| Glycerol | (CAS No.) 56-81-5 / [EINECS(EC#)] 200-289-5 | 50% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Consult a physician.

First-aid measures after inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Consult a physician.

First-aid measures after skin contact

Flush contaminated skin with plenty of water and soap. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First-aid measures after ingestion

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

May be harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments

No specific treatment.

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

None known

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Hazardous thermal decomposition products

No specific data

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Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: This product contains a material of biological origin. Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

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Email: info@southernbiotech.com • Website: www.southernbiotech.com

Recommended storage temperature: 2 - 8°C

SECTION 8: Exposure controls/personal protection

Control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-----------|---------|--|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 5 mg/m ³ | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | TWA | 10 mg/m ³ | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation | | |
| | | See Appendix D - Substances with No Established RELs | | |
| | | TWA | 5 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m ³ | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |

Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Environmental exposure controls

Do no let product enter drains.

Personal protective equipment

Protective goggles, gloves



Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

Impervious clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the

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| | |
|----------------------------------|--|
| | sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Other information | When using, do not eat, drink, or smoke. May contain material of animal origin. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state

: Liquid

Color

: Light amber to dark amber

Odor

: Not available

Odor threshold

: Not available

pH

: Not available

Melting point

: Not available

Boiling point

: Not available

Flash Point

: Not available

Burning time

: Not applicable

Burning rate

: Not applicable

Evaporation rate

: Not available

Flammability (solid, gas)

: Not available

Lower and upper explosive (flammable) limits

: Not available

Vapor pressure

: Not available

Vapor density

: Not available

Relative density

: Not available

Solubility

: Soluble in the following materials:
cold water and hot water.

Partition coefficient n-octanol/water

: Not available

Auto-ignition temperature

: Not available

Decomposition temperature

: Not available

SADT

: Not available

Viscosity

: Not available

Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical Stability

The product is stable.

Possibility Of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions To Avoid

No specific data.

Incompatible Materials

Strong oxidizers

Hazardous Decomposition Products No specific data.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

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Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Information on the likely routes of exposure: Routes of entry anticipated: Oral, Dermal, and Inhalation.

Potential acute health effects

Eye contact: No known significant effects or critical hazards

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Long term exposure

Potential immediate effects: Not available

Potential delayed effects: Not available

Potential chronic health effects: Not available

General: No known significant effects or critical hazards.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

SECTION 12: Ecological information

| | |
|--------------------------------------|-------------------|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within user's premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted. Clean Water Act (CWA) 311: disodium hydrogenorthophosphate

| | |
|---|------------|
| Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) | Not listed |
| Clean Air Act Section 602 Class I Substances | Not listed |
| Clean Air Act Section 602 Class II Substances | Not listed |
| DEA List I Chemicals (Precursor Chemicals) | Not listed |

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Email: info@southernbiotech.com • **Website:** www.southernbiotech.com

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

SARA 311/312

Classification Chronic health hazard

State regulations

New Jersey

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

New York

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Massachusetts

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Pennsylvania

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
| Glycerol | 56-81-5 |

California

| | |
|------------------|-----------|
| Sodium Phosphate | 7558-79-4 |
|------------------|-----------|

Minnesota

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Rhode Island

| | |
|----------|---------|
| Glycerol | 56-81-5 |
|----------|---------|

Canada inventory All components are listed or exempted.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
 China inventory (IECSC): All components are listed or exempted.
 Japan inventory: All components are listed or exempted.
 Korea inventory: All components are listed or exempted.
 Malaysia Inventory (EHS Register): All components are listed or exempted.
 New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
 Philippines inventory (PICCS): All components are listed or exempted.
 Taiwan inventory (CSNN): All components are listed or exempted.

| | |
|---|------------|
| Chemical Weapons Convention List Schedule I | Not listed |
| Chemical Weapons Convention List Schedule II Chemicals | Not listed |
| Chemical Weapons Convention List Schedule III Chemicals | Not listed |

SECTION 16: Other information

| | |
|-----------------------|---|
| Indication of changes | : 30-Apr-15 |
| Other information | : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200. |

GHS Full Text Phrases:

NFPA health : 0 - No unusual hazard
NFPA fire hazard : 0 - Not combustible
NFPA reactivity : 0 - Not reactive when mixed with water

HMIS III Rating

Health : 0- Minimal Hazard
Flammability : 0 - Minimal Hazard
Physical : 0 - Minimal Hazard



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SDS US (GHS HazCom) - US Only



SECTION 1: Identification of the substance or mixture and of the supplier

| | |
|--|---|
| GHS Product Identifier | ABTS Substrate, Powder |
| Other means of identification | SBA Clonotyping System-HRP |
| Product type | Solid |
| Product code | 5300-05 |
| Chemical formula | Not applicable |
| CAS No | Not applicable |
| SDS No. | 2230664 |
| Relevant Identified uses of the substance or mixture and uses advised against | Not applicable |
| Supplier's details | Southern Biotechnology Associates, Inc. 160 Oxmoor Boulevard Birmingham, Alabama 35209 USA Tel: (205) 945-1774 Fax: (205) 945-8768 Website: www.southernbiotech.com |
| Distributor and Emergency Phone No. | Refer to website for distributor and emergency phone numbers. Tel: (205) 945-1774 |

SECTION 2: Hazards identification

Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture

Label elements

GHS-US labeling

Hazard pictograms (GHS-US)

Not a hazardous substance or mixture

Other hazards

none

Unknown acute toxicity (GHS US)

No data available

Full text of H-phrases: see section 16

SECTION 3: Composition/information on ingredients

| | |
|--------------------------------------|---|
| Substance/Mixture | Substance |
| Other Means of Identification | 4-Nitrophenyl phosphatedisodium salthexahydrate pNPP disodium salthexahydrate Formula: $C_6H_4NNa_2O_6P \cdot 6H_2O$ |

CAS Number/other identifiers

| | |
|-------------------|-------------|
| CAS Number | 333338-18-4 |
|-------------------|-------------|

| Ingredient Name | Product Identifier | Percentage |
|--|---|------------|
| diammonium 2,2'-azinobis[3-ethyl-2,3- dihydrobenzothiazole-6-sulphonate] salthexahydrate | (CAS No.) 30931-67-0 [EINECS(EC#)] 250-396-6 | 100% |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8

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SECTION 4: First aid measures

Description of first aid measures

First-aid measures general

Do not leave the victim unattended. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

First-aid measures after eye contact

Immediately flush eye(s) with plenty of water.

Remove contact lenses.

Protect unharmed eye.

If eye irritation persists, consult a specialist.

First-aid measures after inhalation

Move to fresh air.

If unconscious place in recovery position and seek medical advice.

If symptoms persist, call a physician.

First-aid measures after skin contact

If on skin, rinse well with water.

First-aid measures after ingestion

Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

Rinse mouth with water.

Most important symptoms and effects, acute and delayed

Potential acute health effects

Eye contact

No known significant effects or critical hazards

Inhalation

No known significant effects or critical hazards

Skin contact

No known significant effects or critical hazards

Ingestion

Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact

No specific data

Inhalation

No specific data

Skin contact

No specific data

Ingestion

No specific data

Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

Specific treatments

No data available

Protection of first-aiders

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

None known

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Special hazards arising from the substance or mixture

Hazardous thermal decomposition products

No information available

No specific data

Further Information

Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

General measures: Use universal precautions during clean up procedures. Avoid breathing (vapor, mist). Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment, see section 8.

For non-emergency personnel

Avoid dust formation. Avoid breathing vapors, mist or gas.

For emergency responders

For personal protection see section 8.

Environmental precautions

Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Small spill: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Large spill: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

See Section 1 for emergency contact information, Section 13 for waste disposal, and Section 8 for exposure controls and personal protection.

SECTION 7: Handling and storage**Precautions for safe handling**

Precautions for safe handling: Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

Hygiene measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Technical measures: Electrical installations / working materials must comply with the technological safety standards.

Recommended storage temperature: 2-8°C

Light sensitive.

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure controls**

Appropriate engineering controls



Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the

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| | |
|----------------------------------|---|
| Environmental exposure controls | workday. Do not let product enter drains. |
| Personal protective equipment | Protective goggles, gloves |
| |   |
| Hand protection | The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application specified by us. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. |
| Body protection | Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Other skin protection | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Eye protection | Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. |
| Respiratory protection | No personal respiratory protective equipment normally required. |
| Conditions to avoid | No specific data |
| Incompatible materials | No specific data |
| Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. When using, do not eat, drink, or smoke. |

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|------------------|
| Appearance | |
| Physical state | : Form: solid |
| Color | : green |
| Odor | : Not available |
| Odor threshold | : Not available |
| pH | : Not available |
| Melting point | : Not available |
| Boiling point | : > 350°C |
| Flash Point | : Not applicable |
| Burning time | : Not applicable |
| Burning rate | : Not applicable |
| Evaporation rate | : Not available |
| Flammability (solid, gas) | : Not available |
| Lower and upper explosive (flammable) limits | : Not available |

| | |
|---------------------------------------|--|
| Vapor pressure | : Not available |
| Vapor density | : Not available |
| Relative density | : Not available |
| Solubility | : Soluble in the following materials: cold water and hot water. |
| Partition coefficient n-octanol/water | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| SADT | : Not available |
| Viscosity | : Not available |
| Molecular Weight | : 548.7 g/mol |

Other information

No additional information available

SECTION 10: Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | No dangerous reaction known under conditions of normal use. |
| Chemical Stability | The product is stable under recommended storage conditions. |
| Possibility Of Hazardous Reactions | No data available |
| Conditions To Avoid | No data available |
| Incompatible Materials | No data available |
| Hazardous Decomposition Products | Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire: see section 5 |

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity No data available

Conclusion/Summary: To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: 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

Additional Information: RTECS: Not available.

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SECTION 12: Ecological information

| | |
|---|--|
| Toxicity | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| Results of PBT and vPvB assessment | PBT/vPvB assessment not available as chemical safety assessment not required/not conducted |
| Other adverse effects | No data available |

SECTION 13: Disposal considerations

| | |
|--------------------------------|---|
| Waste treatment methods | |
| Waste from residues | Can be disposed as waste water, when in compliance with local regulations. |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. |

SECTION 14: Transport information

| | DOT Classification | IATA |
|----------------------------|-----------------------|---------------|
| UN number | Not regulated | Not regulated |
| UN proper | - | - |
| Transport hazard class(es) | - | - |
| Packing group | - | - |
| Environmental hazards | No | No |
| Additional information | - | - |

Special precautions for user: Transport within users premises always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory informationSARA 302/304Composition/information on ingredients

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMII Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

State regulations

Pennsylvania

diammonium 2,2'-azinobis[3-ethyl-2,3- dihydrobenzothiazole-6-sulphonate] 30931-67-0

New Jersey

diammonium 2,2'-azinobis[3-ethyl-2,3- dihydrobenzothiazole-6-sulphonate] 30931-67-0

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canada inventory

All components are listed or exempted.

Inventories

AICS (Australia), DSL (Canada), IECSC (China), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16: Other information

Indication of changes

: 30-Apr-15

Other information

: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

NFPA health

: 0 - No unusual hazard

NFPA fire hazard

: 0 - Not combustible

NFPA reactivity

: 0 - Not reactive when mixed with water

HMIS III Rating

Health

: 0- Minimal Hazard

Flammability

: 0 - Minimal Hazard

Physical

: 0 - Minimal Hazard



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SDS US (GHS HazCom) - US Only

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