



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

|  |   |
|--|---|
| <b>GHS Product Identifier</b>  | Goat F(ab') <sub>2</sub> Anti-Human Ig-AF488  |
| <b>Other means of identification</b>   | N/A   |
| <b>Product type</b>  | Liquid  |
| <b>Product code</b>  | 2012-30   |
| <b>Chemical formula</b>  | Not applicable  |
| <b>CAS No</b>  | Not applicable  |
| <b>SDS No.</b>   | 2233710   |
| <b>Relevant Identified uses of the substance or mixture and uses advised against</b> | Not applicable  |
| <b>Supplier's details</b>  | Southern Biotechnology Associates, Inc.<br>160 Oxmoor Boulevard<br>Birmingham, Alabama 35209 USA<br>Tel: (205) 945-1774<br>Fax: (205) 945-8768<br>Website: <a href="http://www.southernbiotech.com">www.southernbiotech.com</a> |
| <b>Distributor and Emergency Phone No.</b>   | Refer to website for distributor and emergency phone numbers.<br>Tel: (205) 945-1774  |

## SECTION 2: Hazards identification

### Classification of the substance or mixture

#### GHS-US classification

Acute Toxicity Oral - Category 5

### Label elements

#### GHS-US labeling

Hazard pictograms (GHS-US) None

|  |  |
|--|--|
| <b>Signal word (GHS-US)</b>              | Warning  |
| <b>Hazard statements (GHS-US)</b>        | H303 – May be harmful if swallowed   |
| <b>Precautionary statements (GHS-US)</b> | P262 – Do not get in eyes, on skin, or on clothing.  |
| <b>Prevention</b>                        | P264 – Wash hands, forearms, and exposed areas thoroughly after handling.<br>P270 – Do not eat, drink, or smoke when using this product.   |
| <b>Response</b>                          | P312 – Call a POISON CENTER or doctor/physician if you feel unwell.  |
| <b>Storage</b>                           | Not applicable   |
| <b>Disposal</b>                          | P501 – Dispose of contents and container in accordance with all local, regional, national, and international regulations.  |
| <b>Other hazards</b>                     | Dilute azide-containing compounds in running water before discarding to avoid accumulation of potentially explosive deposits in lead or plumbing copper.<br>Sodium azide is rapidly absorbed through skin. |

**Unknown acute toxicity (GHS US)** No data available

Full text of H-phrases: see section 16

### SECTION 3: Composition/information on ingredients

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

| Ingredient Name | Product Identifier                             | Percentage |
|-----------------|--|------------|
| Sodium Azide    | (CAS No.) 26628-22-8 / [EINECS(EC#)] 247-852-1 | 0.1        |

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. Get medical attention if irritation occurs.

##### 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. 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 skin contact

Flush contaminated skin with plenty of water. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician.

#### 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 an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**

None known

**Special hazards arising from the substance or mixture**

In a fire or if heated, a pressure increase will occur and the container may burst.

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 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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, 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.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Sodium Azide (26628-22-8) |                                      |  |
|---------------------------|--------------------------------------|--|
| USA NIOSH                 | NIOSH REL (TWA) (mg/m <sup>3</sup> ) | Absorbed through skin. Notes NaN <sub>3</sub><br>CEIL: 0.3 mg/m <sup>3</sup> , (NaN <sub>3</sub> )       |
| USA NIOSH                 | NIOSH REL (TWA) (ppm)                | Absorbed through skin. Notes As HN <sub>3</sub><br>CEIL: 0.1 ppm, (as HN <sub>3</sub> )                  |
| USA OSHA                  | OSHA PEL (TWA) (mg/m <sup>3</sup> )  | Absorbed through skin. Notes as NaN <sub>3</sub><br>CEIL: 0.3 mg/m <sup>3</sup> , (as NaN <sub>3</sub> ) |
| USA OSHA                  | OSHA PEL (TWA) (ppm)                 | Absorbed through skin. Notes as HN <sub>3</sub><br>CEIL: 0.1 ppm, (as HN <sub>3</sub> )                  |

### Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Personal protective equipment

Protective goggles, gloves



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|                                  |  |
|----------------------------------|--|
| 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                  | 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

|   |                        |
|---|------------------------|
| <b>Appearance</b>                                   |                        |
| <b>Physical state</b>                               | : Liquid               |
| <b>Color</b>  | : Light to dark yellow |
| <b>Odor</b>   | : Not available        |
| <b>Odor threshold</b>                               | : Not available        |
| <b>pH</b>   | : ≈7.4                 |
| <b>Melting point</b>                                | : Not available        |
| <b>Boiling point</b>                                | : Not available        |
| <b>Flash Point</b>                                  | : Not available        |
| <b>Burning time</b>                                 | : Not applicable       |
| <b>Burning rate</b>                                 | : Not applicable       |
| <b>Evaporation rate</b>                             | : Not available        |
| <b>Flammability (solid, gas)</b>                    | : Not available        |
| <b>Lower and upper explosive (flammable) limits</b> | : Not available        |
| <b>Vapor pressure</b>                               | : Not available        |
| <b>Vapor density</b>                                | : Not available        |
| <b>Relative density</b>                             | : 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** Acids, metals, water. (Note: Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of HIGHLY EXPLOSIVE compounds of lead azide and copper azide.)

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

**SECTION 11: Toxicological information**

**Information on toxicological effects**

Acute toxicity

| Product/ingredient | Result    | Species | Dose     | Exposure |
|--------------------|-----------|---------|----------|----------|
| Sodium Azide       | LD50 Oral | Mice    | 27 mg/kg | -        |
|                    | LD50 Oral | Rat     | 45 mg/kg | -        |

**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:**

| Product/ingredient name | Result                  | Species | Dose       | Exposure            |
|-------------------------|-------------------------|---------|------------|---------------------|
| Sodium Azide            | Equivocal - Oral - TD   | Rat     | 5460 mg/kg | 78 weeks Continuous |
|                         | Equivocal - Oral - TDLo | Rat     | 2730 mg/kg | 78 weeks Continuous |

**Reproductive toxicity:** Not available

**Teratogenicity:** Not available

**Specific target organ toxicity (single exposure):** Not available

**Specific target organ toxicity (repeated exposure):** Not available

**Aspiration hazard:** Not available

**Information on the likely routes of exposure:** Routes of entry anticipated: Oral, Dermal, Inhalation, skin or eye contact

**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.

**Additional Information**

RTECS: VY8050000

**SECTION 12: Ecological information**

**Toxicity**

| Product / ingredient name | Result                                 | Species                                 | Exposure |
|---------------------------|--|---|----------|
| Sodium Azide              | Acute EC50 0.348 mg/L Fresh water      | Algae – Pseudokirchneriella subcapitata | 96 hours |
|                           | Acute EC50 4.2 to 6.2 mg/L Fresh water | Daphnia - Daphnia pulex - Larvae        | 48 hours |
|                           | Acute LC50 9000 ug/L Fresh water       | Crustaceans - Gammarus lacustris        | 48 hours |
|                           | Acute LC50 0.68 mg/L Fresh water       | Fish - Lepomis macrochirus              | 96 hours |
|                           | Chronic NOEC 5600 ug/L Marine water    | Algae - Macrocyctis pyrifera            | 96 hours |

**Persistence and degradability** Not available

**Bioaccumulative potential** Not available

**Mobility in soil**

Soil/water partition coefficient (KOC) Not available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.



## 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<br>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: 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

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304

Composition/information on ingredients

| Name         | %       | EHS | SARA 302 TPQ |           | SARA 304 RQ |           |
|--------------|---------|-----|--------------|-----------|-------------|-----------|
|              |         |     | (lbs)        | (gallons) | (lbs)       | (gallons) |
| Sodium Azide | 0 - 0.1 | Yes | 500          | -         | 1000        | -         |

SARA 304 RQ 1000000 lbs / 454000 kg

SARA 311/312

Classification Immediate (acute) health hazard

Composition/information on ingredients



| Name         | %       | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--------------|---------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Sodium Azide | 0 - 0.1 | No          | No                         | Yes      | Yes                             | No                              |

**State regulations**

**New Jersey**

Sodium Azide 26628-22-8  
 Sodium Phosphate 7558-79-4

**New York**

Sodium Azide 26628-22-8  
 Sodium Phosphate 7558-79-4

**Massachusetts**

Sodium Azide 26628-22-8  
 Sodium Phosphate 7558-79-4

**Pennsylvania**

Sodium Azide 26628-22-8  
 Sodium Phosphate 7558-79-4

**California**

Sodium Azide 26628-22-8  
 Sodium Phosphate 7558-79-4

**Louisiana**

Sodium Azide 26628-22-8

**Minnesota**

Sodium Azide 26628-22-8

**Rhode Island**

Sodium Azide 26628-22-8

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** : 13Nov14  
**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:**

|      |  |
|------|--|
| H303 | May be harmful if swallowed  |
| P262 | Do not get in eyes, on skin, or on clothing                        |
| P264 | Wash hands, forearms, and exposed areas thoroughly after handling. |
| P270 | Do not eat, drink, or smoke when using this product.               |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell.       |

|      |  |
|------|--|
| P501 | Dispose of contents and container in accordance with all local, regional, national, and international regulations. |
|------|--|

**NFPA health hazard** : 1 - May be irritating  
**NFPA fire hazard** : 0 - Not combustible  
**NFPA reactivity** : 0 - Not reactive when mixed with water

**HMIS III Rating**

**Health** : 1 - Slight Hazard - Irritation or minor reversible injury possible  
**Flammability** : 0 - Minimal Hazard  
**Physical** : 0 - Minimal Hazard



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