Safety Data Sheet

Cat. # 786-744

Bovine Serum Albumin Standards

Size: 1L
BSA Solution
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Revision date: 5/11/2017  Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: BSA Solution
Product code: 224B, 236B, 238B, 240B, 242B, 244B, 246B, 445A
Product group: Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road B12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit</td>
<td>Avonley Road SE14 5ER London</td>
<td>0870 243 2241</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available
SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>98.91 - 99.1</td>
<td>Not classified</td>
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<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5</td>
<td>0.5 - 2</td>
<td>Not classified</td>
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<tr>
<td>Bovine Serum Albumin</td>
<td>(CAS-No.) 9048-46-8</td>
<td>0.01 - 0.2</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium azide</td>
<td>(CAS-No.) 26628-22-8</td>
<td>&lt; 0.05</td>
<td>Acute Tox. 2 (Oral), H300</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 247-852-1</td>
<td></td>
<td>Acute Tox. 1 (Dermal), H310</td>
</tr>
<tr>
<td></td>
<td>(EC Index-No.) 011-004-00-7</td>
<td></td>
<td>Aquatic Acute 1, H400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse eyes with water as a precaution.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.
Storage temperature: 4 - 8 °C

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>sodium azide (26628-22-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EU IOELV TWA (mg/m³)</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td>EU IOELV STEL (mg/m³)</td>
<td>0.3 mg/m³</td>
</tr>
<tr>
<td>United Kingdom WEL TWA (mg/m³)</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td>United Kingdom WEL STEL (mg/m³)</td>
<td>0.3 mg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
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</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
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<tr>
<td>Vapour pressure</td>
<td>No data available</td>
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<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
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<tr>
<td>Log Pow</td>
<td>No data available</td>
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<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
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</table>
BSA Solution
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Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

sodium chloride (7647-14-5)
| LD50 oral rat | > 3980 mg/kg bodyweight (Rat, Experimental value) |
| LD50 dermal rabbit | > 10000 mg/kg (Rabbit, Experimental value) |
| LC50 inhalation rat (mg/l) | > 42 mg/l air (1 h, Rat, Male, Experimental value) |

sodium azide (26628-22-8)
| LD50 oral rat | 27 mg/kg |
| LD50 dermal rabbit | 19 - 48 mg/kg bodyweight (Rabbit, Inconclusive, insufficient data) |

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

sodium chloride (7647-14-5)
| LC50 fish 1 | 5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value) |

sodium azide (26628-22-8)
| LC50 fish 1 | 0.8 mg/l (Equivalent or similar to OECD 203, 96 h, Gasterosteus aculeatus, Fresh water, Experimental value) |
sodium azide (26628-22-8)
EC50 96h algae (1) 0.35 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

Bovine Serum Albumin (9048-46-8)
Persistence and degradability Readily biodegradable in water.

sodium chloride (7647-14-5)
Persistence and degradability Biodegradability: not applicable.
Biochemical oxygen demand (BOD) Not applicable
Chemical oxygen demand (COD) Not applicable
ThOD Not applicable
BOD (% of ThOD) Not applicable

sodium azide (26628-22-8)
Persistence and degradability Biodegradability in soil: not applicable. Biodegradability: not applicable.
Biochemical oxygen demand (BOD) Not applicable (inorganic)
Chemical oxygen demand (COD) Not applicable (inorganic)
ThOD Not applicable (inorganic)

12.3. Bioaccumulative potential

sodium chloride (7647-14-5)
Log Pow -3 (Calculated)
Bioaccumulative potential Not bioaccumulative.

sodium azide (26628-22-8)
Bioaccumulative potential Not bioaccumulative.

12.4. Mobility in soil

sodium chloride (7647-14-5)
Surface tension 73.03 mN/m (23 °C, 14.5 g/l)
Ecology - soil No (test)data on mobility of the substance available.

sodium azide (26628-22-8)
Ecology - soil Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Component
sodium chloride (7647-14-5) This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
### Proper Shipping Name (RID)

Not applicable

| 14.3. Transport hazard class(es) |
|-----------------|-----------------|
| **ADR**         | Transport hazard class(es) (ADR): Not applicable |
| **IMDG**        | Transport hazard class(es) (IMDG): Not applicable |
| **IATA**        | Transport hazard class(es) (IATA): Not applicable |
| **ADN**         | Transport hazard class(es) (ADN): Not applicable |
| **RID**         | Transport hazard class(es) (RID): Not applicable |

### Packing group

Not applicable

| 14.4. Packing group |
|-----------------|-----------------|
| Packing group (ADR): Not applicable |
| Packing group (IMDG): Not applicable |
| Packing group (IATA): Not applicable |
| Packing group (ADN): Not applicable |
| Packing group (RID): Not applicable |

### Environmental hazards

Not applicable

| 14.5. Environmental hazards |
|----------------|-----------------|
| Dangerous for the environment: No |
| Marine pollutant: No |
| Other information: No supplementary information available |

### Special precautions for user

Not applicable

- **Overland transport**
  
  No data available

- **Transport by sea**
  
  No data available

- **Air transport**
  
  No data available

- **Inland waterway transport**
  
  No data available

- **Rail transport**
  
  No data available

### Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code |
|----------------|-----------------|
| Not applicable |

## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

#### 15.2. National regulations

No additional information available

### Chemical safety assessment

No chemical safety assessment has been carried out
Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 1 (Dermal)</td>
<td>Acute toxicity (dermal), Category 1</td>
</tr>
<tr>
<td>Acute Tox. 2 (Oral)</td>
<td>Acute toxicity (oral), Category 2</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>H300</td>
<td>Fatal if swallowed.</td>
</tr>
<tr>
<td>H310</td>
<td>Fatal in contact with skin.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.