Safety Data Sheet

Cat. # 786-087

ActiveHOOK BSA

Size: 10mg
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>ActiveHOOK BSA (Bovine Serum Albumin)</td>
</tr>
<tr>
<td>Product code</td>
<td>067A</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Bovine albumin, BSA</td>
</tr>
<tr>
<td>Product group</td>
<td>Raw material</td>
</tr>
<tr>
<td>BIG no</td>
<td>18529</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

| Main use category | Research purposes |
| Use of the substance/mixture | Research and development |

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)

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

| Substance type | Mono-constituent |
| Name | ActiveHOOK BSA (Bovine Serum Albumin) |

<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>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>Bovine Serum Albumin</td>
<td>(CAS-No.) 9048-46-8</td>
<td>2 - 5</td>
<td>Not classified</td>
</tr>
<tr>
<td>disodium dihydrogen ethylenediaminetetraacetate, dihydrate</td>
<td>(CAS-No.) 6381-92-6 (EC-No.) 205-358-3</td>
<td>0.05 - 0.5</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sodium Phosphate (Dibasic)</td>
<td>(CAS-No.) 7558-79-4 (EC-No.) 231-448-7</td>
<td>&lt; 0.05</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
**ActiveHOOK BSA (Bovine Serum Albumin)**

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Sodium phosphate monobasic</th>
<th>(CAS-No.) 7558-80-7 (EC-No.) 231-449-2</th>
<th>&lt; 0.05</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5 (EC-No.) 231-598-3</td>
<td>&lt; 0.05</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**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. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Wash skin with plenty of water.

First-aid measures after eye contact: Rinse with water. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

**4.2. Most important symptoms and effects, both acute and delayed**

Symptoms/effects: No data available.

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

Treat symptomatically.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**


Unsuitable extinguishing media: No unsuitable extinguishing media known.

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

Fire hazard: DIRECT FIRE HAZARD: Most organic solids may burn if strongly heated.

Explosion hazard: DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Hazardous decomposition products in case of fire: Toxic fumes may be released.

**5.3. Advice for firefighters**

Precautionary measures fire: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Dilute toxic gases with water spray.


**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. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

**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”.

1/24/2018 EN (English) 2/8
6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up: Mechanically recover the product. Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
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

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: -20 °C
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Storage area: Store in a dry area. Keep container in a well-ventilated place. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing, correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: No data available. MATERIAL TO AVOID: No data available.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

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

Materials for protective clothing:
GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available

Hand protection: Gloves

Eye protection: Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection: Protective clothing

Respiratory protection: Dust production: dust mask with filter type P1
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>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Powder.</td>
</tr>
<tr>
<td>Colour</td>
<td>White-yellow.</td>
</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>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, carbon monoxide - carbon dioxide).

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 |

<table>
<thead>
<tr>
<th>Sodium phosphate monobasic (7558-80-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
</tbody>
</table>
# ActiveHOOK BSA (Bovine Serum Albumin)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)</td>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg (Rat)</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 5000 mg/kg (Rabbit)</td>
</tr>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>LD50 oral rat</td>
<td>&gt; 3980 mg/kg bodyweight (Rat, Experimental value)</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 10000 mg/kg (Rabbit, Experimental value)</td>
</tr>
<tr>
<td></td>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 42 mg/l air (1 h, Rat, Male, Experimental value)</td>
</tr>
<tr>
<td>Sodium Phosphate (Dibasic) (7558-79-4)</td>
<td>LD50 oral rat</td>
<td>17000 mg/kg (Rat)</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rat</td>
<td>&gt; 7940 mg/kg (Rat)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
<td></td>
</tr>
</tbody>
</table>

## SECTION 12: Ecological information

### 12.1. Toxicity

| Ecology - general | No environmental hazard. |
| Ecology - air | TA-Luft Klasse 5.2.1. |
| Acute aquatic toxicity | Not classified |
| Chronic aquatic toxicity | Not classified |

| Sodium phosphate monobasic (7558-80-7) | LC50 fish 1 | > 2400 mg/l (OECD 203: Fish, Acute Toxicity Test, 48 h, Leuciscus idus) |

| disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6) | LC50 fish 1 | 320 mg/l (LC50; 96 h) |
| | EC50 Daphnia 1 | > 100 mg/l (EC50; 24 h) |

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

| Sodium Phosphate (Dibasic) (7558-79-4) | LC50 fish 1 | > 2400 mg/l (OECD 203: Fish, Acute Toxicity Test, 48 h, Leuciscus idus) |

### 12.2. Persistence and degradability

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

| Sodium phosphate monobasic (7558-80-7) | 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 |
| disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6) | Persistence and degradability | Not readily biodegradable in water. |
| | Biochemical oxygen demand (BOD) | 0.01 g O_{2}/g substance |
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 Phosphate (Dibasic) (7558-79-4)
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

12.3. Bioaccumulative potential
Sodium phosphate monobasic (7558-80-7)
Log Pow: -3.96 (Estimated value)
Bioaccumulative potential: Not bioaccumulative.
disodium dihydrogen ethylenediaminetetraacetate, dihydrate (6381-92-6)
Bioaccumulative potential: No bioaccumulation data available.
sodium chloride (7647-14-5)
Log Pow: -3 (Calculated)
Bioaccumulative potential: Not bioaccumulative.
Sodium Phosphate (Dibasic) (7558-79-4)
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.

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Regional legislation (waste): LWCA (the Netherlands): KGA category 03.
Product/Packaging disposal recommendations: Remove to an authorized incinerator with energy recovery.
Additional information: LWCA (the Netherlands): KGA category 03.
European List of Waste (LoW) code: 16 03 06 - organic wastes other than those mentioned in 16 03 05

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 regulated
UN-No. (IATA): Not regulated
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 regulated
Proper Shipping Name (IATA): Not regulated
Proper Shipping Name (ADN): Not applicable

1/24/2018 EN (English)
ActiveHOOK BSA (Bovine Serum Albumin)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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 regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport
  Transport regulations (ADR) : Not subject

- Transport by sea
  Not regulated

- Air transport
  Not regulated

- Inland waterway transport
  Transport regulations (ADN) : Not subject

- Rail transport
  Transport regulations (RID) : Not subject

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
ActiveHOOK BSA (Bovine Serum Albumin) is not on the REACH Candidate List
ActiveHOOK BSA (Bovine Serum Albumin) is not on the REACH Annex XIV List

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out
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.