SECTION 1: Identification

1.1. Product identifier
Product form: Natural substance
Substance name: BOTS
Product code: Not available
Substance name: Bovine muscle

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Bovine Muscle Certified Reference Material, for laboratory use only

1.3. Details of the supplier of the safety data sheet
National Research Council Canada
1200 Montreal Road
Ottawa, K1A 0R6 - Canada
T 613-993-2359

1.4. Emergency telephone number
Emergency number: CANUTEC 1-613-996-6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS classification
Not classified

2.2. Label elements
GHS labelling
No labelling applicable

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
None by OSHA Hazcom 2012 and HPR WHMIS 2015 criteria.

3.2. Mixture
Not applicable

4.1. Description of first aid measures
First-aid measures after inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact: If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.
First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.
First-aid measures after ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
# BOTS
## Safety Data Sheet

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

| Symptoms/injuries after inhalation | May cause respiratory tract irritation. |
| Symptoms/injuries after skin contact | May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. |
| Symptoms/injuries after eye contact | May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling. |
| Symptoms/injuries after ingestion | May be harmful if swallowed. May cause stomach distress, nausea or vomiting. |

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

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

| Suitable extinguishing media | Treat for surrounding material. |
| Unsuitable extinguishing media | None known. |

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

| Fire hazard | Products of combustion may include, and are not limited to: oxides of carbon. |

### 5.3. Advice for firefighters

| Protection during firefighting | Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

| General measures | Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. |

### 6.2. Methods and material for containment and cleaning up

| For containment | Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). |
| Methods for cleaning up | Vacuum or sweep material and place in a disposal container. Provide ventilation. |

### 6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| Precautions for safe handling | Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. |
| Hygiene measures | Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking. |

### 7.2. Conditions for safe storage, including any incompatibilities

| Storage conditions | Keep out of the reach of children. Keep container tightly closed. |

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available
8.2. Exposure controls

Appropriate engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection: Wear suitable gloves.

Eye protection: Safety glasses or goggles are recommended when using product.

Skin and body protection: Wear suitable protective clothing.

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

Environmental exposure controls: Maintain levels below Community environmental protection thresholds.

Other information: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid

Appearance: Powder

Colour: Reddish brown

Odour: No data available

Odour threshold: No data available

pH: No data available

Melting point: No data available

Freezing point: No data available

Boiling point: No data available

Flash point: No data available

Relative evaporation rate (butylacetate=1): No data available

Flammability (solid, gas): Not flammable

Explosive limits: No data available

Explosive properties: No data available

Oxidising properties: No data available

Vapour pressure: No data available

Relative density: No data available

Relative vapour density at 20 °C: No data available

Solubility: No data available

Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.
### 10.2. Chemical stability
Stable under normal storage conditions.

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

### 10.4. Conditions to avoid
Heat.

### 10.5. Incompatible materials
None known.

### 10.6. Hazardous decomposition products
May include, and are not limited to: oxides of carbon.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified.</td>
</tr>
</tbody>
</table>

#### BOTS

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>No data available</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>No data available</td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>No data available</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
<td>May cause respiratory tract irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.</td>
</tr>
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<td>May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>May be harmful if swallowed. May cause stomach distress, nausea or vomiting.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity
Ecology - general: No additional information available.

#### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>
12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

Department of Transportation (DOT) and Transport of Dangerous Goods (TDG)
In accordance with DOT and TDG
Not regulated for transport

Additional information
Other information: No supplementary information available.
Special transport precautions: Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. US State regulations
No additional information available

SECTION 16: Other information
Date of issue: 2016-08-22
Revision date: 2016-08-22
Version #: 1.0
Prepared by: Nexreg Compliance Inc.

DISCLAIMER:
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

This material is for research and experimental applications only. It is not intended for food, drug, household, agricultural, or cosmetic use. Its use must be supervised by technically qualified individuals with experience in the handling of potentially hazardous chemicals. Apart from the solvent in this product (if applicable), the hazardous components present in the solution are at such low concentrations that exact determination of degree of hazard is not warranted and would be misleading. We shall not be held liable for any damage resulting from handling or from contact with the above product.