1 Identification

Product identifier

Product name: Brucine

Stock number: J61178
CAS Number: 357-57-3
EC number: 206-614-7
Index number: 614-006-00-1

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.
Acute Tox. 2 H330 Fatal if inhaled.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS06

Signal word Danger

Hazard statements

H300+H330 Fatal if swallowed or if inhaled.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P284 [In case of inadequate ventilation] wear respiratory protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/…
P330 Take immediate medical advice/notify doctor.
P331 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
P332 IF ON SKIN: Rinse與 carefully with water for 15 minutes.
P352 If吸入: Remove patient to fresh air.
P360 Do not give water to drink.
P361 Do not induce vomiting.
P362 Do not give anything by mouth.
P370 Do not cause to vomit.
P371 Do not give any liquid to drink.
P372 Do not give food.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1A - Very toxic material causing immediate and serious toxic effects

classification system

HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

Health (acute effects) = 4
Flammability = 1
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances
CAS# Description: 357-57-3 Brucine
Identification number(s):
EC number: 206-614-7
Index number: 614-006-00-1

4 First-aid measures

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

(Contd. on page 2)
### Product name: Brucine

**After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

**After skin contact**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

**After eye contact**
Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing**
Do not induce vomiting; immediately call for medical help.

**Information for doctor**
Most important symptoms and effects, both acute and delayed: No further relevant information available.
Indication of any immediate medical attention and special treatment needed: No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**
Suitable extinguishing agents: Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture**
If this product is involved in a fire, the following can be released:
- Carbon monoxide and carbon dioxide
- Nitrogen oxides (NOx)
- Possibly Hydrogen cyanide (HCN)

**Advice for firefighters**
- Protective equipment: Wear self-contained respirator.
- Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

**Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.

**Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation.

**Prevention of secondary hazards:** No special measures required.

**Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

### 7 Handling and storage

**Handling**
Precautions for safe handling:
- Keep container tightly sealed.
- Store in cool, dry place in tightly closed containers.
- Ensure good ventilation at the workplace.
- Open and handle container with care.

**Information about protection against explosions and fires:** No information known.

**Conditions for safe storage, including any incompatibilities**

**Storage**
Requirements to be met by storerooms and receptacles:
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

**Further information about storage conditions:**
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

**Specific end use(s)**
- No further relevant information available.

### 8 Exposure controls/personal protection

**Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:**
- No data

**Exposure controls**
Personal protective equipment
- General protective and hygienic measures:
  - The usual precautionary measures for handling chemicals should be followed.
  - Keep away from foodstuffs, beverages and feed.
  - Remove all soiled and contaminated clothing immediately.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Maintain an ergonomically appropriate working environment.
- Breathing equipment: Use self-contained respiratory protective device in emergency situations.
- Protection of hands:
  - Impervious gloves
  - Check protective gloves prior to each use for their proper condition.
  - The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
- Eye protection:
  - Safety glasses
- Body protection:
  - Protective work clothing.

### 9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General Information**
Appearance:
- Form: Powder
- Color: White
- Odor: Not determined
### 10 Stability and reactivity

**Reactivity**
- No information known.

**Chemical stability**
- Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided**
- Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions**
- No dangerous reactions known

**Conditions to avoid**
- No further relevant information available.

**Incompatible materials**
- Oxidizing agents

**Hazardous decomposition products**
- Carbon monoxide and carbon dioxide
- Possibly Hydrogen cyanide (HCN)

### 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**
- Fatal if inhaled.
- Fatal if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**
- No data

**Skin irritation or corrosion:**
- May cause irritation

**Eye irritation or corrosion:**
- May cause irritation

**Sensitization:**
- No sensitizing effects known.

**Germ cell mutagenicity:**
- No effects known.

**Carcinogenicity:**
- No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:**
- No effects known.

**Specific target organ system toxicity - repeated exposure:**
- No effects known.

**Specific target organ system toxicity - single exposure:**
- No effects known.

**Aspiration hazard:**
- No effects known.

**Subacute to chronic toxicity:**
- The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:**
- To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### 12 Ecological information

**Toxicity**

**Aquatic toxicity:**
- No further relevant information available.

**Persistence and degradability**
- No further relevant information available.

**Bioaccumulative potential**
- No further relevant information available.

**Mobility in soil**
- No further relevant information available.

**Ecotoxicological information:**

**Remark:**
- Harmful to aquatic organisms

**Additional ecological information:**

**General notes:**

**Do not allow material to be released to the environment without proper governmental permits.**

**Do not allow product to reach ground water, water course or sewage system, even in small quantities.**

**Danger to drinking water if even extremely small quantities leak into the ground.**

**May cause long lasting harmful effects to aquatic life.**

**Avoid transfer into the environment.**

**Harmful to aquatic organisms**

**Results of PBT and vPvB assessment**

**PBT:**
- Not applicable.

**vPvB:**
- Not applicable.

**Other adverse effects**
- No further relevant information available.

### 13 Disposal considerations

**Waste treatment methods**

**Recommendation:**
- Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:**
- Disposal must be made according to official regulations.
14 Transport information

UN-Number
DOT, IMDG, IATA
UN1570

UN proper shipping name
DOT
Brucine
IMDG, IATA
BRUCINE

Transport hazard class(es)

<table>
<thead>
<tr>
<th>DOT</th>
<th>IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>6.1</td>
</tr>
<tr>
<td>Label</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Packing group
DOT, IMDG, IATA
I

Environmental hazards:
Not applicable.

Special precautions for user
Warning: Toxic substances

EMS Number:
F-A,S-A

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

Transport/Additional information:

DOT
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN1570, Brucine, 6.1, I

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS06

Signal word Danger

Hazard statements
H300+H330 Fatal if swallowed or if inhaled.

Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 [In case of inadequate ventilation] wear respiratory protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/…
P320 Specific treatment is urgent (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)
357-57-3 [Brucine]

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use:
For use only by technically qualified individuals.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/23/2015 /

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
# Safety Data Sheet

**Per OSHA HazCom 2012**

## Product name: Brucine

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System (Canada)</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System (Canada)</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists (USA)</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (USA)</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program (USA)</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency (USA)</td>
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