Safety Data Sheet

Cat. # RC-114

Bromophenol Blue, Free Acid (ACS Grade)

Size: 500g
bromophenol blue
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 11/25/2015 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification

1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>bromophenol blue</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>115-39-9</td>
</tr>
<tr>
<td>Product code</td>
<td>218B_B156</td>
</tr>
<tr>
<td>Formula</td>
<td>C19H10Br4O5S</td>
</tr>
<tr>
<td>Synonyms</td>
<td>3',3'',5',5''-tetrabromophenolsulfonephthalein / 3',3',5',5''-tetrabromophenolsulfonphthalein / 3',3',5',5''-tetrabromophenolsulfophthalein / 3',3',5',5''-tetrabromophenolsulphonphthalein / 4,4'-(3H-2,1-benzoxathiol-3-ylidene)bis(2,6-dibromopheno)S,S-dioxide / albutest / alpha,alphabis(3,5-dibromo-4-hydroxyphenyl)alpha-hydroxy-ortho-toluene sulfonic acid gamma-sultone / BPB / bromphenol blue indicator / bromphenol blue / phenol, 4,4'-(3H-2,1-benzoxathiol-3-ylidene)bis(2,6-dibromo-, S,S-dioxide / tetrabromophenol sulfophthalein / tetrabromophenolsulfonephthalein / tetrabromophenolsulfonphthalein</td>
</tr>
</tbody>
</table>

BIG No: 18378

1.2. Recommended use and restrictions on use

Use of the substance/mixture: Laboratory chemical
Dyestuff

1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - 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: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification
Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent
### bromophenol blue

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>bromophenol blue (Main constituent)</td>
<td>3',3'',5',5''-tetrabromophenolsulfonephthalein / 3',3',5',5''-tetrabromophenolsulfonphthalein / 3',3',5',5''-tetrabromophenolsulfophthalein / 4,4'(3H-2,1-benzoxathiol-3-ylidene)bis(2,6-dibromophenol)S,S-dioxide / albutest / alpha,alpha-bis(3,5-dibromo-4-hydroxyphenyl)alpha-hydroxy-ortho-toluene sulfonic acid gamma-sultone / BPB / bromophenol blue indicator / bromophenol blue / phenol, 4,4'-(3H-2,1-benzoxathiol-3-ylidene)bis(2,6-dibromo-), S,S-dioxide / tetrabromophenol sulfophthalein / tetrabromophenolsulfonphthalein</td>
<td>(CAS-No.) 115-39-9</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

### SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general


- First-aid measures after inhalation: 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.

- First-aid measures after eye contact: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.


4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation: **EXPOSURE TO HIGH CONCENTRATIONS: AFTER INHALATION OF DUST/MIST:** Coughing. Slight irritation.

- Symptoms/effects after skin contact: Dry skin.

- Symptoms/effects after eye contact: Slight irritation. Redness of the eye tissue. Lacrimation.

- Chronic symptoms: No effects known.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.</td>
</tr>
</tbody>
</table>

5.2. Specific hazards arising from the chemical

- **Fire hazard:** DIRECT FIRE HAZARD: Non-flammable. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

- **Explosion hazard:** DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard".
5.3. Special protective equipment and precautions for fire-fighters

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. Take account of toxic/corrosive precipitation water. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting
Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment

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

Measures in case of dust release

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

Prevent soil and water pollution. Prevent spreading in sewers.

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. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up
Stop dust cloud by humidifying. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. 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

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
5 - 30 °C

Heat-ignition
KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage
KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases.

Storage area
Keep out of direct sunlight. Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Provide the tank with earthing. Meet the legal requirements.

Special rules on packaging
SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials
SUITABLE MATERIAL: metal.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| bromophenol blue (115-39-9) | No additional information available |

8.2. Appropriate engineering controls

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

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: nitrile rubber

Hand protection:

Protective gloves against chemicals (EN374)

Eye protection:

Safety glasses. In case of dust production: protective goggles

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P1

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Physical state | Solid |
| Appearance | Crystalline solid. Powder. |
| Color | Yellow-red to blue |
| Odor | Phenol odour |
| Odor threshold | No data available |
| pH | 3.0 - 4.6 |
| Melting point | 273 °C |
| Freezing point | Not applicable |
| Boiling point | Not applicable |
| Flash point | Not applicable |
| Relative evaporation rate (butyl acetate=1) | No data available |
| Flammability (solid, gas) | Non flammable. |
| Vapor pressure | < 0.1 hPa (20 °C) |
| Relative vapor density at 20 °C | Not applicable |
| Relative density | 0.73 |
| Specific gravity / density | 730 kg/m³ |
| Molecular mass | 669.99 g/mol |
| Solubility | Poorly soluble in water. Substance floats in water. Soluble in ethanol. Soluble in methanol. Soluble in acetic acid. Soluble in aromatic hydrocarbons. Soluble in bases. Water: 0.40 g/100ml |
| Log Pow | 6.77 (Estimated value, KOWWIN) |
| Auto-ignition temperature | Not applicable |
| Decomposition temperature | 279 °C |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |
| Explosion limits | Not applicable |
### SECTION 10: Stability and reactivity

10.1. **Reactivity**
Reacts violently with (strong) oxidizers and with (strong) reducers: (increased) risk of fire/explosion.

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**

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified, pH: 3.0 - 4.6</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified, pH: 3.0 - 4.6</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>EXPOSURE TO HIGH CONCENTRATIONS: AFTER INHALATION OF DUST/MIST: Coughing. Slight irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Dry skin.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Slight irritation. Redness of the eye tissue. Lacrimation.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>No effects known.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

12.1. **Toxicity**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - general</td>
<td>The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.</td>
</tr>
<tr>
<td>Ecology - water</td>
<td>Forming sediments in water. pH shift.</td>
</tr>
</tbody>
</table>
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12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>bromophenol blue (115-39-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradable in the soil. Not readily biodegradable in water.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>bromophenol blue (115-39-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>14000 (Pisces, Literature study, Calculated value)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>6.77 (Estimated value, KOWWIN)</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>High potential for bioaccumulation (BCF &gt; 5000).</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>bromophenol blue (115-39-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Koc</td>
<td>5.165 - 6.185 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>Adsorbs into the soil.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods


Product/ Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.


SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>bromophenol blue (115-39-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
<td></td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available
SECTION 16: Other information

Revision date: 05/11/2017

NFPA health hazard: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity: 0 - Material that in themselves are normally stable, even under fire conditions.

SDS US (GHS HazCom 2012)

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.