

## SAFETY DATA SHEET

Version 6.0  
Revision Date 11/27/2018  
Print Date 10/04/2019**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Brilliant Blue R Staining Solution

Product Number : B6529  
Brand : Sigma-Aldrich  
CAS-No. : 6104-59-2**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Inc.  
3050 Spruce Street  
ST. LOUIS MO 63103  
UNITED STATESTelephone : +1 314 771-5765  
Fax : +1 800 325-5052**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Flammable liquids (Category 3), H226  
Skin corrosion (Category 1A), H314  
Serious eye damage (Category 1), H318  
Acute aquatic toxicity (Category 2), H401

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word : Danger

Hazard statement(s)

H226 : Flammable liquid and vapour.  
H314 : Causes severe skin burns and eye damage.

|                            |   |
|----------------------------|---|
| H401                       | Toxic to aquatic life.  |
| Precautionary statement(s) |   |
| P210                       | Keep away from heat/sparks/open flames/hot surfaces. No smoking.  |
| P233                       | Keep container tightly closed.  |
| P240                       | Ground/bond container and receiving equipment.  |
| P241                       | Use explosion-proof electrical/ ventilating/ lighting equipment.  |
| P242                       | Use only non-sparking tools.  |
| P243                       | Take precautionary measures against static discharge.   |
| P264                       | Wash skin thoroughly after handling.  |
| P273                       | Avoid release to the environment.   |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face protection.   |
| P301 + P330 + P331         | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  |
| P303 + P361 + P353         | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.   |
| P304 + P340 + P310         | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.   |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| P363                       | Wash contaminated clothing before reuse.  |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  |
| P403 + P235                | Store in a well-ventilated place. Keep cool.  |
| P405                       | Store locked up.  |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.   |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Synonyms : Brilliant Blue R  
Acid Blue 83  
Coomassie® Brilliant Blue R  
Brilliant indocyanin 6B

Formula : C<sub>45</sub>H<sub>44</sub>N<sub>3</sub>NaO<sub>7</sub>S<sub>2</sub>

Molecular weight : 825.97 g/mol

| Component           | Classification        | Concentration  |
|---------------------|-----------------------|--|
| <b>Ethanol</b>      |                       |  |
| CAS-No.             | 64-17-5               | Flam. Liq. 2; Eye Irrit. 2A; Aquatic Acute 2; H225, H319, H401 |
| EC-No.              | 200-578-6             |  |
| Index-No.           | 603-002-00-5          |  |
| Registration number | 01-2119457610-43-XXXX |  |
| <b>Acetic acid</b>  |                       |  |
| CAS-No.             | 64-19-7               | Flam. Liq. 3; Met. Corr. 1; >= 10 - < 20                       |

|                     |                       |   |   |
|---------------------|-----------------------|---|---|
| EC-No.              | 200-580-7             | Skin Corr. 1A; Eye Dam. 1; H226, H290, H314, H318 | % |
| Index-No.           | 607-002-00-6          |   |   |
| Registration number | 01-2119475328-30-XXXX |   |   |

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Dry sand

#### Unsuitable extinguishing media

Do NOT use water jet.

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

Carbon oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

| Component | CAS-No. | Value  | Control parameters                   | Basis  |
|-----------|---------|--|--------------------------------------|--|
| Ethanol   | 64-17-5 | TWA  | 1,000 ppm<br>1,900 mg/m <sup>3</sup> | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|           |         | TWA  | 1,000 ppm<br>1,900 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|           | Remarks | The value in mg/m <sup>3</sup> is approximate. |                                      |  |
|           |         | STEL   | 1,000 ppm                            | USA. ACGIH Threshold Limit Values (TLV)  |
|           |         | Upper Respiratory Tract irritation             |                                      |  |

|             |         |  |                                      |   |
|-------------|---------|--|--------------------------------------|---|
|             |         | Confirmed animal carcinogen with unknown relevance to humans               |                                      |   |
|             |         | TWA  | 1,000 ppm<br>1,900 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |
|             |         | PEL  | 1,000 ppm<br>1,900 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| Acetic acid | 64-19-7 | TWA  | 10 ppm                               | USA. ACGIH Threshold Limit Values (TLV)   |
|             |         | Pulmonary function<br>Upper Respiratory Tract irritation<br>Eye irritation |                                      |   |
|             |         | STEL   | 15 ppm                               | USA. ACGIH Threshold Limit Values (TLV)   |
|             |         | Pulmonary function<br>Upper Respiratory Tract irritation<br>Eye irritation |                                      |   |
|             |         | TWA  | 10 ppm<br>25 mg/m <sup>3</sup>       | USA. NIOSH Recommended Exposure Limits  |
|             |         | Can be found in concentrations of 5-8% in vinegar                          |                                      |   |
|             |         | ST   | 15 ppm<br>37 mg/m <sup>3</sup>       | USA. NIOSH Recommended Exposure Limits  |
|             |         | Can be found in concentrations of 5-8% in vinegar                          |                                      |   |
|             |         | TWA  | 10 ppm<br>25 mg/m <sup>3</sup>       | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|             |         | The value in mg/m <sup>3</sup> is approximate.                             |                                      |   |
|             |         | PEL  | 10 ppm<br>25 mg/m <sup>3</sup>       | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|             |         | STEL   | 15 ppm<br>37 mg/m <sup>3</sup>       | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|             |         | C  | 40 ppm                               | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |                                |
|---|--------------------------------|
| a) Appearance                                   | Form: liquid                   |
| b) Odour  | No data available              |
| c) Odour Threshold                              | No data available              |
| d) pH   | No data available              |
| e) Melting point/freezing point                 | No data available              |
| f) Initial boiling point and boiling range      | No data available              |
| g) Flash point                                  | 27.2 °C (81.0 °F) - closed cup |
| h) Evaporation rate                             | No data available              |
| i) Flammability (solid, gas)                    | No data available              |
| j) Upper/lower flammability or explosive limits | No data available              |
| k) Vapour pressure                              | No data available              |
| l) Vapour density                               | No data available              |
| m) Relative density                             | No data available              |
| n) Water solubility                             | No data available              |
| o) Partition coefficient: n-octanol/water       | No data available              |
| p) Auto-ignition temperature                    | No data available              |

- q) Decomposition temperature No data available
- r) Viscosity No data available
- s) Explosive properties No data available
- t) Oxidizing properties No data available

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Oxidizing agents, Alkali metals, Strong oxidizing agents, Metals, Amines, Ammonia, Reducing agents, Alcohols, Peroxides, permanganates, e.g. potassium permanganate, Soluble carbonates and phosphates, Hydroxides

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

### **Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

### **Reproductive toxicity**

No data available

No data available

### **Specific target organ toxicity - single exposure**

No data available

### **Specific target organ toxicity - repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: Not available

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

No data available

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****DOT (US)**

UN number: 1170 Class: 3 Packing group: III

Proper shipping name: Ethanol solutions

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

**IMDG**

UN number: 1170 Class: 3 Packing group: III EMS-No: F-E, S-D

Proper shipping name: ETHANOL SOLUTION

**IATA**

UN number: 1170 Class: 3 Packing group: III

Proper shipping name: Ethanol solution

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**SECTION 15: Regulatory information****SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

|             | CAS-No. | Revision Date |
|-------------|---------|---------------|
| Ethanol     | 64-17-5 | 1993-04-24    |
| Acetic acid | 64-19-7 | 1993-04-24    |

**Pennsylvania Right To Know Components**

|         | CAS-No. | Revision Date |
|---------|---------|---------------|
| Ethanol | 64-17-5 | 1993-04-24    |

|             |           |            |
|-------------|-----------|------------|
| Water       | 7732-18-5 |            |
| Acetic acid | 64-19-7   | 1993-04-24 |

### **California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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## **SECTION 16: Other information**

### **Further information**

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