1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Evans Blue
Product Number: E2129
Brand: Sigma
Supplier: Sigma-Aldrich Corporation
3050 Spruce Street
SAINT LOUIS MO  63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Toxic by ingestion, Carcinogen

Target Organs
Liver

GHS Classification
Acute toxicity, Oral (Category 3)
Carcinogenicity (Category 1B)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H301 Toxic if swallowed.
H350 May cause cancer.

Precautionary statement(s)
P201 Obtain special instructions before use.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308 + P313 IF exposed or concerned: Get medical advice/attention.

HMIS Classification
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating
Health hazard: 2
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Direct Blue 53
Formula: \( C_{34}H_{24}N_6Na_4O_{14}S_4 \)
Molecular Weight: 960.81 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate)</td>
<td>90 - 100 %</td>
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<tr>
<td>CAS-No.</td>
<td>314-13-6</td>
</tr>
<tr>
<td>EC-No.</td>
<td>206-242-5</td>
</tr>
<tr>
<td>Index-No.</td>
<td>611-030-00-4</td>
</tr>
</tbody>
</table>

4. 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
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides
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Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

**Hand 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.

**Eye protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Form: powder
- Colour: no data available

**Safety data**
- pH: no data available
- Melting point/freezing point: no data available
- Boiling point: no data available
- Flash point: no data available
- Ignition temperature: no data available
- Auto-ignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
Vapour pressure no data available
Density no data available
Water solubility no data available
Partition coefficient: n-octanol/water no data available
Relative vapour density no data available
Odour no data available
Odour Threshold no data available
Evaporation rate no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Sodium oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
no data available

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
LD50 Intraperitoneal - mouse - 340 mg/kg

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
Possible human carcinogen
IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate))

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

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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion Toxic if swallowed.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.

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

Synergistic effects
no data available

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solids, organic, n.o.s. (Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate))
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 2811 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate))
Marine pollutant: No

IATA
UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. (Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate))

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Toxic by ingestion, Carcinogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: 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
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate) CAS-No. 314-13-6 Revision Date 03/21/2013

New Jersey Right To Know Components
Tetrasodium 6,6'-(3,3'-dimethyl-(1,1'-biphenyl-4,4'diyl)bis(azo)bis(4-amino-5-hydroxy-1,3-naphthalenedisulphonate) CAS-No. 314-13-6 Revision Date 03/21/2013

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.

16. OTHER INFORMATION

Further information
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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.