1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Trypan Blue

Product Number : T6146

Brand : Sigma

Supplier : Sigma-Aldrich
            3050 Spruce Street
            SAINT LOUIS MO  63103
            USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (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, Carcinogen, Teratogen

Target Organs
Liver

GHS Classification
Carcinogenicity (Category 1B)

GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)
H350 : May cause cancer.

Precautionary statement(s)
P201 : Obtain special instructions before use.
P308 + P313 : IF exposed or concerned: Get medical advice/attention.

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

NFPA Rating
Health hazard: 0
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 May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Direct blue 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>C_{34}H_{24}N_{6}Na_{4}O_{14}S_{4}</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>960.81 g/mol</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium 3,3'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]</td>
<td>90 - 100 %</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>72-57-1</td>
</tr>
<tr>
<td>EC-No.</td>
<td>200-786-7</td>
</tr>
<tr>
<td>Index-No.</td>
<td>611-024-00-1</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. 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, Sodium oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. 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 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.
Keep in a dry 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.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form powder
Colour no data available

Safety data
pH no data available
Melting Melting point/range: > 300 °C (> 572 °F) - lit.
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, Sodium oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 6,200 mg/kg

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
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
Genotoxicity in vivo - rat - Oral
Unscheduled DNA synthesis

Carcinogenicity
This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.
Possible human carcinogen

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Tetrasodium 3,3''-[(3,3''-dimethyl[1,1''-biphenyl]-4,4''-diyl)bis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate])

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

no data available

Teratogenicity

Experiments have shown reproductive toxicity effects on laboratory animals.

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 May be harmful 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: QJ6475000
12. ECOLOGICAL INFORMATION

**Toxicity**
- Toxicity to fish: LC50 - Oryzias latipes - > 1,000 mg/l - 48 h

**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: 3077
- Class: 9
- Packing group: III
- Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Tetrasodium 3,3’-[(3,3’-dimethyl[1,1’-biphenyl]-4,4’-diyl)bis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate])
- Reportable Quantity (RQ): 10 lbs
- Marine pollutant: No
- Poison Inhalation Hazard: No

**IMDG**
- Not dangerous goods

**IATA**
- Not dangerous goods

15. REGULATORY INFORMATION

**OSHA Hazards**
- Target Organ Effect, Carcinogen, Teratogen

**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**
- The following components are subject to reporting levels established by SARA Title III, Section 313:
  - Tetrasodium 3,3’-[(3,3’-dimethyl[1,1’-biphenyl]-4,4’-diyl)bis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate] CAS-No. 72-57-1
  - Revision Date: 2007-07-01

**SARA 311/312 Hazards**
- Chronic Health Hazard

**Massachusetts Right To Know Components**
Pennsylvania Right To Know Components

CAS-No. 72-57-1, Revision Date 2007-07-01

Tetrasodium 3,3'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]

New Jersey Right To Know Components

CAS-No. 72-57-1, Revision Date 2007-07-01

Tetrasodium 3,3'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]

California Prop. 65 Components

CAS-No. 72-57-1, Revision Date 2007-09-28

WARNING! This product contains a chemical known to the State of California to cause cancer.

Tetrasodium 3,3'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]

16. OTHER INFORMATION

Further information

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