1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Trypan Blue Solutions
Cat No.: SV3WAST1
Synonyms: No information available.
Recommended Use: In vitro methods

Company
HyClone Laboratories, Inc.
925 West 1800 South
Logan, UT 84321 United States
Tel: (435) 792-8000

Emergency Telephone Number
INFOTRAC - 24 Hour Number: 1-800-535-5053
Outside of the United States, call 24 Hour Number: 001-352-323-3500 (Call Collect)

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview
Flammable liquid and vapor. Possible cancer hazard. May cause cancer based on animal data. Harmful if swallowed. May cause eye, skin, and respiratory tract irritation. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Appearance: Blue
Physical State: Liquid
odor: No information available

Target Organs: Liver, Kidney

Potential Health Effects

Acute Effects
Principle Routes of Exposure

- Eyes: May cause irritation
- Skin: May cause irritation. May be harmful in contact with skin.
- Inhalation: May cause irritation of respiratory tract. May be harmful if inhaled.
- Ingestion: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Effects

Possible cancer hazard based on tests with laboratory animals. Tumorigenic effects have been reported in experimental animals. Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions

Preexisting eye disorders. Skin disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amino Acids</td>
<td>NA</td>
<td>&lt;= 2</td>
</tr>
<tr>
<td></td>
<td>Inorganic Salts</td>
<td>NA</td>
<td>&lt;= 50</td>
</tr>
<tr>
<td></td>
<td>Vitamins</td>
<td>NA</td>
<td>&lt;= 5</td>
</tr>
<tr>
<td></td>
<td>Standard Cell Culture Media</td>
<td>NA</td>
<td>&lt;= 2</td>
</tr>
<tr>
<td></td>
<td>Process water</td>
<td>7732-18-5</td>
<td>&gt;= 40</td>
</tr>
<tr>
<td></td>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>&lt; 20</td>
</tr>
<tr>
<td></td>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>&lt;= 0.5</td>
</tr>
<tr>
<td></td>
<td>Trypan blue</td>
<td>72-57-1</td>
<td>&lt;= 0.5</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Get medical attention immediately if symptoms occur.

**Ingestion**
Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Notes to Physician**
Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point**
estimated: 29°C / 84.2°F

**Method**
No information available.

**Autoignition Temperature**
No information available.

**Explosion Limits**
- **Upper**
  - No data available
- **Lower**
  - No data available

**Suitable Extinguishing Media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media**
No information available.

**Hazardous Combustion Products**
No information available.
Sensitivity to mechanical impact
No information available.

Sensitivity to static discharge
No information available.

Specific Hazards Arising from the Chemical
Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA Health 2 Flammability 3 Instability 0 Physical hazards N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Environmental Precautions
Should not be released into the environment.

Methods for Containment and Clean Up
Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable and closed containers for disposal. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

7. HANDLING AND STORAGE

Handling
Use only under a chemical fume hood. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Flammables area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>TWA: 200 ppm STEL: 400 ppm</td>
<td>(Vacated) TWA: 980 mg/m³ (Vacated) TWA: 400 ppm (Vacated) STEL: 1225 mg/m³ (Vacated) STEL: 500 ppm TWA: 400 ppm TWA: 980 mg/m³</td>
<td>IDLH: 2000 ppm TWA: 980 mg/m³ TWA: 400 ppm STEL: 500 ppm STEL: 1225 mg/m³</td>
</tr>
<tr>
<td>Component</td>
<td>ACGIH TLV</td>
<td>OSHA PEL</td>
<td>NIOSH IDLH</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>Ceiling: 0.29 mg/m³ Ceiling: 0.11 ppm</td>
<td>Skin (Vacated) Ceiling: 0.1 ppm (Vacated) Ceiling: 0.3 mg/m³</td>
<td>Ceiling: 0.3 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>TWA: 400 ppm TWA: 985 mg/m³ STEL: 500 ppm STEL: 1230 mg/m³</td>
<td>TWA: 980 mg/m³ STEL: 1225 mg/m³</td>
<td>TWA: 200 ppm STEL: 400 ppm</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>Ceiling: 0.3 mg/m³ Ceiling: 0.11 ppm</td>
<td></td>
<td>CEV: 0.1 ppm CEV: 0.26 mg/m³</td>
</tr>
</tbody>
</table>

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**Personal Protective Equipment**

**Eye/face Protection**
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

**Skin and body protection**
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Respiratory Protection**

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Blue</td>
</tr>
<tr>
<td>odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>estimated: 29°C / 84.2°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>log Pow</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions.

**Conditions to Avoid**
Incompatible products. Heat, flames and sparks.

**Incompatible Materials**
Strong oxidizing agents, Strong acids, Metals

**Hazardous Decomposition Products**
Carbon monoxide (CO), Carbon dioxide (CO₂), peroxides

**Hazardous Polymerization**
Hazardous polymerization does not occur.

**Hazardous Reactions .**
Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.
11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information
No acute toxicity information is available for this product

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral Oral</th>
<th>LD50 Dermal Oral</th>
<th>LC50 Inhalation Oral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>4396 mg/kg (Rat)</td>
<td>12800 mg/kg (Rat)</td>
<td>72.6 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>27 mg/kg (Rat)</td>
<td>20 mg/kg (Rabbit)</td>
<td>Not listed</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>6200 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Irritation
No information available.

Toxicologically Synergistic Products
No information available.

Chronic Toxicity

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>Not listed</td>
<td>Group 1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>Not listed</td>
<td>Group 2B</td>
<td>Not listed</td>
<td>X</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

Sensitization
No information available.

Mutagenic Effects
Mutagenic effects have occurred in experimental animals.

Reproductive Effects
Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects
Developmental effects have occurred in experimental animals.

Teratogenicity
Teratogenic effects have occurred in experimental animals.

Other Adverse Effects
Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

Endocrine Disruptor Information
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
12. ECOLOGICAL INFORMATION

- Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>EC50 96 h &gt;1000 mg/L</td>
<td>EC50 72 h &gt;1000 mg/L</td>
<td>LC50 96 h 9640 mg/L</td>
<td>= 35390 mg/L EC50 Photobacterium phosphoreum 5 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC50 48 h 13299 mg/L</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available

Bioaccumulation/ Accumulation
No information available

Mobility

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>0.05</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trypan blue - 72-57-1</td>
<td>U236</td>
<td>-</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

- UN-No: UN1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Proper technical name: (ISOPROPANOL)
- Hazard Class: 3
- Packing Group: III

TDG

- UN-No: UN1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Hazard Class: 3
- Packing Group: III

IATA

- UN-No: UN1993
- Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
- Hazard Class: 3
- Packing Group: III

IMDG/IMO

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14. TRANSPORT INFORMATION

UN-No: UN1993
Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S.
Hazard Class: 3
Packing Group: III

15. REGULATORY INFORMATION

All of the components in the product are on the following Inventory lists:

### International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process water</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>KE-29363</td>
<td>X</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-661-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-31357</td>
<td>X</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>247-852-1</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-33690</td>
<td>X</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-786-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-33690</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**

- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

- **TSCA 12(b)** Not applicable
- **SARA 313**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>&lt; 20</td>
<td>1.0</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>&lt;= 0.5</td>
<td>1.0</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>72-57-1</td>
<td>&lt;= 0.5</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazardous Categorization**
Acute Health Hazard  Yes
Chronic Health Hazard Yes
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act
Not applicable

Clean Air Act
Not applicable

OSHA
Not applicable

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>1000 lb</td>
<td>1000 lb</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>10 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trypan blue</td>
<td>72-57-1</td>
<td>Carcinogen</td>
<td>-</td>
</tr>
</tbody>
</table>

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Sodium azide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Trypan blue</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ):  Y
DOT Marine Pollutant  N
DOT Severe Marine Pollutant  N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico - Grade</td>
<td>Serious risk, Grade 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
B2  Flammable liquid
D1B  Toxic materials
D2A  Very toxic materials
16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date
28-Aug-2009

Print Date
01-Jun-2010

Revision Summary
“***”, and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS