Section 1: Chemical Product and Company Identification

Product Name: Toluidine Blue O
Catalog Codes: SLT3952
CAS#: 92-31-9
RTECS: SP5670000
TSCA: TSCA 8(b) inventory: Toluidine Blue O
CI#: 52040
Synonym: Basic Blue 17; Tolonium chloride; Blutene chloride; C.I. Basic Blue 17; Gabilin; Menodin
Chemical Name: 3-Amino-7-(dimethylamino)-2-methylphenothiazin-5-ium chloride;
Chemical Formula: C15-H16-N3-S-Cl

Contact Information:
Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396
US Sales: 1-800-901-7247
International Sales: 1-281-441-4400
Order Online: ScienceLab.com
CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300
International CHEMTREC, call: 1-703-527-3887
For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluidine Blue O</td>
<td>92-31-9</td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Not applicable.

Section 3: Hazards Identification

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4: First Aid Measures
### Section 5: Fire and Explosion Data

**Flammability of the Product:** May be combustible at high temperature.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), sulfur oxides (SO2, SO3...).

**Fire Hazards in Presence of Various Substances:** Slightly flammable to flammable in presence of heat.

**Explosion Hazards in Presence of Various Substances:**
- Risks of explosion of the product in presence of mechanical impact: Not available.
- Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:**
- SMALL FIRE: Use DRY chemical powder.
- LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Special Remarks on Fire Hazards:** As with most organic solids, fire is possible at elevated temperatures

**Special Remarks on Explosion Hazards:** Not available.

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### Section 6: Accidental Release Measures

**Small Spill:**
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water
on the contaminated surface and allow to evacuate through the sanitary system.

### Section 7: Handling and Storage

**Precautions:**
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**
Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

### Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Powder.)

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** 305.83 g/mole

**Color:** Green. (Dark.)

**pH (1% soln/water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Vapolarity:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.
Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:
Soluble in methanol.
Partially soluble in cold water.
Solubility in Water: 3.82 g/100 ml

**Section 10: Stability and Reactivity Data**

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, incompatible materials

**Incompatibility with various substances:** Reactive with oxidizing agents.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

**Section 11: Toxicological Information**

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:**
LD50: Not available.
LC50: Not available.

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May affect genetic material (mutagenic)

**Special Remarks on other Toxic Effects on Humans:**
Acute Potential Health Effects:
Skin: May cause skin irritation.
Eyes: May cause eye irritation.
Inhalation: May cause respiratory tract irritation.
Ingestion: May cause nausea, vomiting, abdominal pain, diarrhea, dyspnea (difficulty breathing), bluish tint of the skin. May cause burning on urination, and the urine to become dark blue to green depending on the concentration in the urine.

There have been reports on effects of Toluidine Blue O on the blood (hemolytic anemia, leukopenia, methemoglobinemia), on behavior/central nervous system (headache, convulsions), cardiovascular system (hypertension, dysrhythmia) as well as reports of acute renal failure and hematuria (only after hemolysis). However, these effects occured only after intravenous dosage.

**Section 12: Ecological Information**
Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

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**Section 13: Disposal Considerations**

**Waste Disposal:**
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

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**Section 14: Transport Information**

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

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**Section 15: Other Regulatory Information**

**Federal and State Regulations:** TSCA 8(b) inventory: Toluidine Blue O

**Other Regulations:** EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**
This product is not classified according to the EU regulations.
Not applicable.

**HMIS (U.S.A.):**

- **Health Hazard:** 1
- **Fire Hazard:** 1
- **Reactivity:** 0
- **Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

- **Health:** 1
- **Flammability:** 1
- **Reactivity:** 0
Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Safety glasses.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/11/2005 12:47 PM

Last Updated: 11/06/2008 12:00 PM

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