Section 1 - Product Identification

A solution of alcohol, sodium iodide and iodine in water.

Section II - Composition/Information on Components

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS#</th>
<th>OSHA Pel</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol</td>
<td>64-17-5</td>
<td>1000 ppm (TWA)</td>
<td>1000 ppm (TWA)</td>
<td></td>
<td>50% v/v</td>
</tr>
<tr>
<td>iodine</td>
<td>7553-56-2</td>
<td>0.1 ppm Ceiling</td>
<td>0.1 ppm (STEL) Ceiling</td>
<td></td>
<td>2% w/v</td>
</tr>
<tr>
<td>sodium iodide</td>
<td>7681-82-5</td>
<td></td>
<td></td>
<td></td>
<td>2.4% w/v</td>
</tr>
</tbody>
</table>

Section III - Hazards Identification

Overview: Toxic by inhalation absorption or ingestion. Can not be made nontoxic. Causes CNS depression, headache, intoxication, dilation of the pupils, convulsions nausea, and dizziness. Unconsciousness and death may result.

Safety Ratings

Health: Hazardous  Flammability: Flammable  Reactivity: Slight  Contact: Slight
Recommended safety equipment: safety goggles, lab coat and proper gloves

Storage: Room Temperature away from sources of ignition.

NFPA Ratings
Health = 2  Flammability = 3  Reactivity = 1

Potential Health Effects

The toxicology of this compound have not been completely examined. It is presumed that the toxicity of this item is similar to other aliphatic alcohols.

Inhalation: Alcohols are absorbed through the mucous membranes and will produce irritation as well as the same effects as ingestion.

Ingestion: Inhalation will produce CNS disturbance, dizziness, photophobia, headache, stupor, coma and death.

Skin contact: Alcohols are absorbed through the skin. Repeated contact causes defatting of the skin with resultant irritation and flaking.

Eye contact: May be irritating

Chronic Exposure: Unknown

Aggravation of preexisting conditions: Impaired kidney and liver function may be aggravated by exposure to alcohols. Preexisting eye, skin, and respiratory conditions may also be aggravated.
Section IV - First Aid Measures

**Inhalation:** Remove from source of exposure and get medical attention for any breathing difficulty.

**Ingestion:** Do not induce vomiting if patient is unconscious or extremely drowsy. Otherwise administer 2 glasses of water and induce vomiting. Get immediate medical attention even if symptoms improve.

**Skin Contact:** In case of skin contact, remove contaminated clothing and flush with water. Wash affected area with soap and water. Get medical advice if irritation develops.

**Eye Contact:** In case of eye contact, flush with water for at least 15 minutes and get medical attention.

Section V - Fire Fighting Measures

**Flash point:** 26°C (79°F) TCC

**Flammable Limits (for ethanol):** LEL 3%  UEL 19%

**Fire:** Water is ineffective against alcohol fires but may be used to cool adjacent containers.

**Fire Extinguishing Media:** Alcohol foam, carbon dioxide or dry chemical.

**Special information:** Pyrolysis will release toxic carbon monoxide.

Section VI - Accidental Release Measures

Remove all sources of ignition, absorb with a suitable absorbent (such as paper towels) and dispose. The preferred disposal method is incineration. Many localities restrict the amount of alcohol that may be flushed down the drain. Insure compliance with all government regulations.

Section VII - Handling and Storage

Store in a closed container, away from open flames or other sources of ignition.

Section VIII - Exposure Control/Personal Protection

**Airborne Exposure Limits:** See section II

**Ventilation System:** Usually not required. When required, Refer to the ACGIH document, “Industrial Ventilation, a Manual of Recommended Practices” for details about ventilation.

**Personal Respirator:** Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

**Skin protection:** Protective gloves are not required but recommended as part of good laboratory practice.

**Eye Protection:** Laboratory safety goggles or similar products are not required but recommended as part of good laboratory practice.

Section IX - Physical and Chemical Properties

**Boiling Point:** 189°F

**Density:** 0.93 g/ml

**Vapor pressure (mm Hg):** 40 @ 19°C

**Evaporation Rate (Ethanol = 1):** 1

**Vapor Density (air = 1):** 1.6

**Solubility:** Infinitely miscible with water

**Appearance and Odor:** An opaque purple liquid with the Characteristic odors of alcohol and iodine.

Section X - Stability and Reactivity

**Stability:** Freezes only at very low temperature.

**Hazardous Decomposition Products:** Nothing unusual.

**Hazardous polymerization:** Will not occur.

**Incompatibilities:** Oxidizers.

**Conditions to avoid:** heat, flame and sources of ignition.
Section XI - Toxicological Information

Chronic consumption of ethanol is believed to be linked to liver disease, cancer and birth defects.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Known Carcinogenicity?</th>
<th>NTP?</th>
<th>Anticipated?</th>
<th>IARC Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>none</td>
</tr>
<tr>
<td>Sodium Iodide</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>none</td>
</tr>
<tr>
<td>Iodine</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>None</td>
</tr>
</tbody>
</table>

Section XII - Ecological Information

*Environmental Fate*: Biodegradable  
*Environmental Toxicity*: None expected

Ethanol evaporates quickly and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for ethanol in the atmosphere is one to ten days.

Section XIII - Disposal

Local governments often restrict the amounts of alcohol that may be flushed down drain. Insure compliance with all government regulation.

Section XIV - Transportation Information

*DOT Shipping name*: Ethyl alcohol solution  
*Hazard Class*: 3  
*Packaging Group*: II  
*DOT Hazard Label*: Flammable liquid  
*DOT Identification Number*: UN1170

Bottles smaller than 32 Fl. Oz. are eligible to be shipped under ORM-D or limited quantity exemptions [49 CFR section 173.150(b)(2) and 173.150(C)].

Section XV - Regulatory Information

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sodium Iodide</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Iodine</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Chemical Inventory Status*

*Federal, State and International Regulations*

- Chemical Weapons Convention: No
- TSCA 12(b): No
- CDTA: Yes
- SARA 311/312: Acute: Yes, Chronic: Yes, Flammable: Yes

Section XVI - Other Information

This information is believed to be correct but is not warranted as such, nor does it purport to be all inclusive.

Prepared by: P. B.  
Revision Date: Oct. 5, 2006