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## Material Safety Data Sheet

### Iodine Tincture, 2% MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Iodine Tincture, 2%

**Catalog Codes:** SLI1597

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Iodine; Sodium iodide; Water; Ethyl alcohol 200 Proof

**CI#:** Not applicable.

**Synonym:** Tinctures of Iodine

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**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](http://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:**

Name	CAS #	% by Weight
Iodine	7553-56-2	1-5
Sodium iodide	7681-82-5	1-5
Water	7732-18-5	35-58
Ethyl alcohol 200 Proof	64-17-5	40-55

**Toxicological Data on Ingredients:** Iodine: ORAL (LD50): Acute: 14000 mg/kg [Rat]. 22000 mg/kg [Mouse]. Sodium iodide: ORAL (LD50): Acute: 4340 mg/kg [Rat]. 1000 mg/kg [Mouse]. Ethyl alcohol 200 Proof: ORAL (LD50): Acute: 7060 mg/kg [Rat]. 3450 mg/kg [Mouse]. VAPOR (LC50): Acute: 20000 ppm 8 hours [Rat]. 39000 mg/m 4 hours [Mouse].

#### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Slightly hazardous in case of skin contact (permeator)).

**Potential Chronic Health Effects:**

Slightly hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant), of ingestion. CARCINOGENIC EFFECTS: Classified A4 (Not classifiable for human or animal.) by ACGIH [Ethyl alcohol 200 Proof]. MUTAGENIC EFFECTS:

Mutagenic for mammalian somatic cells. [Ethyl alcohol 200 Proof]. Mutagenic for bacteria and/or yeast. [Ethyl alcohol 200 Proof]. TERATOGENIC EFFECTS: Classified PROVEN for human [Ethyl alcohol 200 Proof]. DEVELOPMENTAL TOXICITY: Classified Development toxin [PROVEN] [Ethyl alcohol 200 Proof]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Ethyl alcohol 200 Proof]. The substance may be toxic to blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), thyroid. Repeated or prolonged exposure to the substance can produce target organs damage.

#### Section 4: First Aid Measures

**Eye Contact:**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

**Serious Ingestion:** Not available.

#### Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 363°C (685.4°F)

**Flash Points:** CLOSED CUP: 22°C (71.6°F).

**Flammable Limits:** LOWER: 3.3% UPPER: 19%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>). Some metallic oxides.

**Fire Hazards in Presence of Various Substances:**

Highly flammable in presence of heat. Flammable in presence of open flames and sparks. Slightly flammable to flammable in presence of oxidizing materials. Non-flammable in presence of shocks, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.

**Explosion Hazards in Presence of Various Substances:**

Slightly explosive in presence of open flames and sparks, of acids. Non-explosive in presence of shocks.

**Fire Fighting Media and Instructions:**

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

**Special Remarks on Fire Hazards:**

Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. May form explosive mixtures with air. Contact with Bromine pentafluoride is likely

to cause fire or explosion. Ethanol ignites on contact with chromyl chloride. Ethanol ignites on contact with iodine heptafluoride gas. It ignites than explodes upon contact with nitrosyl perchlorate. Additon of platinum black catalyst caused ignition. (Ethyl alcohol 200 Proof)

**Special Remarks on Explosion Hazards:**

Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in reaction with the following compound : ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). Sodium Hydrazide + alcohol can produce an explosion. Alcohols should not be mixed with mercuric nitrate, as explosive mercuric fulminate may be formed. May form explosive mixture with manganese perchlorate + 2,2-dimethoxypropane. Addition of alcohols to highly concentrate hydrogen peroxide forms powerful explosives. Explodes on contact with calcium hypochlorite Vapor may explode if ignited in an enclosed area. Containers may explode when heated or involved in a fire. (Ethyl alcohol 200 Proof)

### Section 6: Accidental Release Measures

**Small Spill:**

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill:**

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

### Section 7: Handling and Storage

**Precautions:**

Keep locked up.. Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis.

**Storage:**

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:**

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor 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:**

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Strong.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Reddish. Brown. (Dark.)

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

**Boiling Point:** The lowest known value is 78.5°C (173.3°F) (Ethyl alcohol 200 Proof). Weighted average: 89.14°C (192.5°F)

**Melting Point:** May start to solidify at -114.1°C (-173.4°F) based on data for: Ethyl alcohol 200 Proof.

**Critical Temperature:** The lowest known value is 243°C (469.4°F) (Ethyl alcohol 200 Proof).

**Specific Gravity:** 0.95 - 1.0 (Water = 1)

**Vapor Pressure:** The highest known value is 5.7 kPa (@ 20°C) (Ethyl alcohol 200 Proof). Weighted average: 4.02 kPa (@ 20°C)

**Vapor Density:** The highest known value is 1.59 (Air = 1) (Ethyl alcohol 200 Proof). Weighted average: 1.11 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 100 ppm (Ethyl alcohol 200 Proof)

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, methanol, diethyl ether, acetone.

**Solubility:**

Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether, acetone.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, heat, sources of ignition. (Ethyl alcohol 200 Proof)

**Incompatibility with various substances:** Reactive with oxidizing agents, reducing agents, metals, acids, alkalis.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:**

Ethanol rapidly absorbs moisture from the air. Ethanol can react vigorously with oxidizers. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide, silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/expodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorosilane + water. Ethanol is also incompatible with platinum, and sodium. No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled. Reacts vigorously with acetyl chloride (Ethyl alcohol 200 Proof) Iodine is incompatible with liquid chlorine, acetaldehyde, ammonia, salt + ethanol, ammonium hydroxide, methyl alcohol, antimony, silver azide, lithium, potassium, sodium, phosphorous, bromine

pentafluoride, fluorine, oxygen difluoride, magnesium, finely divided metals, organic solvents, rubber goods, plastics, zinc, aluminum, alkali metals, sulphur, ammonia solutions, Bromine trifluoride, reducing agents, iron, ethanol + butadiene; ethanol + phosphorous; ethanol + methanol + HgO; foramide + pyridine + sulfur trioxide; formamide; halogens or interhalogens; mercuric oxide; metal carbides; oxygen; pyridine; sodium hydride. Violent reaction with iodine and aluminum + diethyl ether ... (and) titanium (above 113 deg C) (Iodine)

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

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 1000 mg/kg [Mouse]. (Sodium iodide).

### Chronic Effects on Humans:

**CARCINOGENIC EFFECTS:** Classified A4 (Not classifiable for human or animal.) by ACGIH [Ethyl alcohol 200 Proof].  
**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Ethyl alcohol 200 Proof]. Mutagenic for bacteria and/or yeast. [Ethyl alcohol 200 Proof].  
**TERATOGENIC EFFECTS:** Classified PROVEN for human [Ethyl alcohol 200 Proof].  
**DEVELOPMENTAL TOXICITY:** Classified Development toxin [PROVEN] [Ethyl alcohol 200 Proof]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Ethyl alcohol 200 Proof]. May cause damage to the following organs: blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), thyroid.

### Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

### Special Remarks on Toxicity to Animals:

Lowest Published Dose/Conc: LDL[Human] - Route: Oral; Dose: 1400 mg/kg LDL[Human child] - Route: Oral; Dose: 2000 mg/kg LDL[Rabbit] - Route: Skin; Dose: 20000 mg/kg (Ethyl alcohol 200 Proof)

### Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenic) Causes adverse reproductive effects and birth defects (teratogenic) , based on moderate to heavy consumption. May cause cancer based on animal data. Human: passes through the placenta, excreted in maternal milk. (Ethyl alcohol 200 Proof)

### Special Remarks on other Toxic Effects on Humans:

Acute potential health effects: Skin: causes skin irritation. It may cause brown staining of the skin. It can be absorbed by the skin. Eyes: causes eye irritation Ingestion: May cause gastrointestinal tract irritation with abdominal pain, nausea, vomiting, hypermolity, diarrhea. Ingestion may also cause staining of mouth, esophagus, lips, mucous membranes, metallic taste. It may also affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, delirium, seizure, stupor, somnolence, muscle weakness, drowsiness, staggering gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripheral nervous system (spastic paralysis)vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect

## 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 products of degradation are as toxic as the original product.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

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

**Section 14: Transport Information**

**DOT Classification:** CLASS 3: Flammable liquid.

**Identification:** : Ethyl Alcohol solution (Ethyl alcohol 200 Proof) UNNA: 1170 PG: III

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

**Section 15: Other Regulatory Information****Federal and State Regulations:**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Ethyl alcohol 200 Proof (in alcoholic beverages) California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof (in alcoholic beverages) Connecticut hazardous material survey.: Ethyl alcohol 200 Proof Illinois toxic substances disclosure to employee act: Iodine; Ethyl alcohol 200 Proof Rhode Island RTK hazardous substances: Iodine; Ethyl alcohol 200 Proof Pennsylvania RTK: Iodine; Ethyl alcohol 200 Proof Florida: Ethyl alcohol 200 Proof Minnesota: Iodine; Ethyl alcohol 200 Proof Massachusetts RTK: Iodine; Ethyl alcohol 200 Proof Massachusetts spill list: Iodine; Ethyl alcohol 200 Proof New Jersey: Iodine; Ethyl alcohol 200 Proof California Director's List of Hazardous Substances: Ethyl alcohol 200 proof; Iodine TSCA 8(b) inventory: Iodine; Sodium iodide; Water; Ethyl alcohol 200 Proof

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:****WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

**DSCL (EEC):**

R10- Flammable. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking.

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

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** h

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

**Health:** 2

**Flammability:** 3

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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