Neutron® Pharmachemical Co.
Manufacturer of Laboratory Chemical & Pharmaceutical Materials

SAFETY DATA SHEET

Preparation Date: 8/17/2016 **Revision Date:** 8/17/2016 **Revision Number:** G1

1. IDENTIFICATION

Product identifier

Product code: 1.9030
Product Name: IODINE TINCTURE

Other means of identification
Synonyms: No information available
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use
Recommended use: No information available.
Uses advised against No information available

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2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Reproductive toxicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Flammable liquids	Category 2

Label elements

Danger

Hazard statements
Causes serious eye irritation
Causes skin irritation
May cause an allergic skin reaction
May damage fertility or the unborn child

May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Can burn with an invisible flame
Causes mild skin irritation

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/ .? /equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
In case of fire: Use CO2, dry chemical, or foam to extinguish.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Ethyl Alcohol 200 proof	64-17-5	83-88
Iodine	7553-56-2	7
Potassium Iodide	7681-11-0	5-10

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye irritation. Causes skin irritation. May cause a yellow to brownish discoloration of the skin. Irritating to respiratory system. Dyspnea (Difficulty breathing and shortness of breath). Central nervous system effects. Dizziness. Drowsiness. Headache. Ataxia. Staggering gait. Nausea. Vomiting. May cause cardiovascular effects. May affect the liver. It may affect the kidneys. May cause an allergic skin reaction. It may affect the thyroid. May cause hyperthyroidism or hypothyroidism. Hypothyroidism may result in goiter.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Dioxide, Carbon Monoxide. Iodine. Hydrogen iodide. Potassium oxides.

Specific hazards: Flammable
May be ignited by heat, sparks or flames
Material can burn with invisible flame
Vapor may travel considerable distance to source of ignition and flash back
Vapors may form explosive mixtures with air
Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks)
Container explosion may occur under fire conditions or

when heated
Fire may produce irritating, corrosive and/or toxic gases

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Sensitive to light. Store in light-resistant containers. Keep away from heat and sources of ignition. Store in a segrated and approved area. Store away from incompatible materials.

Incompatible Materials:
Oxidizing agents
Reducing agents
Acids
Alkali Metals
Halogens
Caustics
isocyanates
Metals
Bases
Acid anhydrides
Acid chlorides
For Iodine:
Incompatible with liquid chlorine, acetylene, hafnium powder, Tetraamine copper (II) sulfate + ethanol, acetaldehyde, ammonia, salt + ethanol, ammonium hydroxide, methyl alcohol, antimony powder, silver azide, lithium, potasssium, polyacetylene, sodium, phosphorous, bromine pentafluoride, fluorine, trioxygen difluoride, oxygen difluoride, magnesium, finely divided (powdered) metals, organic solvents, natural rubber goods, neoprene, plastics (ABS, Acetal (Delrin), CPVC, Epoxy, Polypropylene, NORYL, PPS (Ryton)), zinc, aluminum, alkali metals, sulphur, ammonia, ammonia + potassium, ammonium hydroxide, ammonia solutions, Ammonia + Litium 1-heptynide, Bromine trifluoride, Bromine pentafluoride, Fluorine, Chlorine trifluoride, reducing agents, iron, ethanol + butadiene + mercuric oxide; ethanol + phosphorous; ethanol + methanol + HgO; foramide + pyrindine + sulfur trioxide; formamide; halogens or interhalogens; mercuric oxide; metal carbides; oxygen; pyridine; sodium hydride, metal acetylides (cesium, copper (I), lithium, rubidium), Dipropyl mercury, Titanium (above 113 C.), Cesium Oxide (above 150 C.), various metal acetylides (barium, calcium, strontium, zirconium), various metal carbides
For Potassium Iodide:
Mercurous chloride
Organic materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	**OSHA**	**NIOSH**	**ACGIH**	**AIHA WHEEL**
Ethyl Alcohol 200 proof	64-17-5	1000 ppm TWA 1900 mg/m³ TWA	1000 ppm TWA 1900 mg/m³ TWA	1000 ppm STEL	None
Iodine	7553-56-2	0.1 ppm Ceiling 1 mg/m³ Ceiling	= 0.1 ppm Ceiling = 1 mg/m³ Ceiling	= 0.1 ppm STEL aerosol and vapor	None
Potassium Iodide	7681-11-0	None	None	None	None

Canada

Components	CAS-No.	**Canada - Alberta**	**Canada - British Columbia**	**Canada - Ontario**	**Canada - Quebec**
Ethyl Alcohol 200 proof	64-17-5	1000 ppm TWA 1880 mg/m³ TWA	1000 ppm STEL	1000 ppm STEL	1000 ppm TWAEV 1880 mg/m³ TWAEV
Iodine	7553-56-2	= 0.1 ppm Ceiling = 1 mg/m³ Ceiling	= 0.01 ppm TWA aerosol, inhalable, and vapour	0.01 ppm TWA inhalable fraction and vapor	0.1 ppm Ceiling 1.0 mg/m³ Ceiling
Potassium Iodide	7681-11-0	None	None	0.01 ppm TWA (inhalable fraction and vapor) (iodides)	None

Australia and Mexico

Components	CAS-No.	**Australia**	**Mexico**
Ethyl Alcohol 200 proof	64-17-5	1000 ppm TWA 1880 mg/m³ TWA	1000 ppm TWA 1900 mg/m³ TWA

Iodine	7553-56-2	None	= 0.1 ppm Peak = 1 mg/m³ Peak
Potassium Iodide	7681-11-0	None	None

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
No information available.

Color:
Reddish-Brown.

Odor:
Characteristic odor of iodine and alcohol.

Taste
No information available.

Formula:
No information available

Molecular/Formula weight:
No information available

Flammability:
Highly flammable

Flashpoint (°C/°F):
18 °C/64.4 °F

Flash Point Tested according to:
Closed cup

Autoignition Temperature (°C/°F):
For Ethyl Alcohol: 363-426 °C/685.4-798.8 °F

Lower Explosion Limit (%):
For Ethyl alcohol: 3.3%

Upper Explosion Limit (%):
For Ethyl alcohol: 19%

Melting point/range(°C/°F):
No information available

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
For Ethyl Alcohol: 78-79 °C/172.4-174.2 °F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
0.91

pH:
No information available

Vapor pressure @ 20°C (kPa):
For Ethyl Alcohol: 5.7

Evaporation rate:
No information available

Vapor density:
1.59

VOC content (g/L):
671

Odor threshold (ppm):
For Ethyl alcohol: 5-10 (recognition) 84 (tolerance)

Partition coefficient (n-octanol/water):
For Ethyl alcohol: -0.31

Viscosity:
No information available

Miscibility:

Solubility:

No information available Very soluble in water

10. STABILITY AND REACTIVITY

Reactivity

For Ethyl alcohol:
It can react vigorously, violently or explosively with oxidizers
When Ethanol comes in contact with Platinum or Sodium, it liberates flammable hydrogen gas
It can react vigorously or explosively with acid hydrides or acid chlorides
It reacts with alkali metals to liberate flammable hydrogen gas
It reacts with acetyl bromide to evolve hydrogen bromide
It reacts with ammonia + silver nitrate to form silver nitride and silver fulminate
Ethyl alcohol can react with freshly cut/etched/scratched aluminum with the evolution of heat and release of hydrogen gas. The Ethyl alcohol has to be on the aluminum surface as it is being cut/scratched/etched
Ethyl Alcohol reacts vigorously with acetyl chloride.
Ethyl alcohol reacts with silver (I) oxide + ammonia or hydrazine to form silver nitride and silver fulminate
Ethanol ignites and then explodes on contact with the following compounds: acetic anhydride + sodium hydrosulfate, disulfuric acid + nitric, phosphorus (III) oxide, potassium tert-butoxide + acids
For Iodine:
Ignition on contact with bromine, bromine pentafluoride,... chlorine trifluoride, ...metals (powdered) + water, aluminum-titanium alloys + heat, metal acetylides, ... nonmetals, ... sodium phosphinate.
Incandescent reaction with cesium oxide (above 150 deg C), bromine trifluoride, metal acetylides or carbides [e.g. barium acetylide (above 122 deg C), calcium acetylide (above 305 deg C), strontium acetylide (above 182 deg C), zirconium acetylide (above 400 degC)].
Magnesium burns vigorously when heated with iodine vapor.
Iodine unites with fluorine at ordinary temperature with a luminous flame
Iodine is incompatible with liquid chlorine, acetaldehyde, ammonia, salt + ethanol, ammonium hydroxide, methyl alcohol, antimony, silver azide, lithium, potasssium , 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; formamide + pyrindine + 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)
For Potassium Iodide:
Mercurous chloride in the presence of an excess of potassium iodide produces metallic mercury and mercuric iodide, the latter forming the soluble double salt, potassium mercuric iodide
Reacts violently with strong oxidizers (bromotrifluorides, chlorotrifluorides, fluorine perchlorate), metallic salts.
Attacks metals in moist environments.
Also incompatible with salts of alkaloids, chloral hydrate, calomel (mercurous chloride), potassium chlorate, tartaric and other acids, oxidants, diazonium salts, charcoal, ozone, strong reducers, alkali metals, metals (brass, aluminum magnesium, zinc, cadmium, copper, tin, nickel, steel)

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Exposure to light. Incompatible materials.

Incompatible Materials:
Oxidizing agents
Reducing agents
Acids
Alkali Metals
Halogens
Caustics
isocyanates
Metals
Bases
Acid anhydrides
Acid chlorides
For Iodine:
Incompatible with liquid chlorine, acetylene, hafnium powder, Tetraamine copper

(II) sulfate + ethanol, acetaldehyde, ammonia, salt + ethanol, ammonium hydroxide, methyl alcohol, antimony powder, silver azide, lithium, potasssium, polyacetylene, sodium, phosphorous, bromine pentafluoride, fluorine, trioxygen difluoride, oxygen difluoride, magnesium, finely divided (powdered) metals, organic solvents, natural rubber goods, neoprene, plastics (ABS, Acetal (Delrin), CPVC, Epoxy, Polypropylene, NORYL, PPS (Ryton)), zinc, aluminum, alkali metals, sulphur, ammonia, ammonia + potassium, ammonium hydroxide, ammonia solutions, Ammonia + Litium 1-heptynide, Bromine trifluoride, Bromine pentafluoride, Fluorine, Chlorine trifluoride, reducing agents, iron, ethanol + butadiene + mercuric oxide; ethanol + phosphorous; ethanol + methanol + HgO; foramide + pyrindine + sulfur trioxide; formamide; halogens or interhalogens; mercuric oxide; metal carbides; oxygen; pyridine; sodium hydride, metal acetylides (cesium, copper (I), lithium, rubidium), Dipropyl mercury, Titanium (above 113 C.), Cesium Oxide (above 150 C.), various metal acetylides (barium, calcium, strontium, zirconium), various metal carbides
For Potassium Iodide:
Mercurous chloride
Organic materials

Hazardous decomposition products: No information available.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

Ethyl Alcohol 200 proof	
CAS-No.	64-17-5

LD50/oral/rat = 7060 mg/kg Oral LD50 Rat
LD50/oral/mouse = 3450 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 124.7 mg/L Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = 39000 mg/m^3 4 h
Other LD50 or LC50information = >60000 ppm Inhalation LC50 Mouse 1 h
5900 mg/m^3 Inhalation LC50 Rat 6 h
20000 ppm Inhalation LC50 Rat 10 h
5560 mg/kg Oral LD50 Guinea Pig
6300 mg/kg Oral LD50 Rabbit

Iodine	
CAS-No.	7553-56-2

LD50/oral/rat = 14 g/kg Oral LD50 Rat
LD50/oral/mouse = 1000 mg/kg (RTECS)
22000 mg/kg (Hazardous Substance Data Bank

LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = 10000 mg/kg LD50 Oral Rabbit
137 ppm 1h LCL inhalation Rat

Potassium Iodide	
CAS-No.	7681-11-0

LD50/oral/rat = No information available
LD50/oral/mouse = 1862 mg/kg, LDLo
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomation available
Other LD50 or LC50information = 916 mg/kg, oral, rabbit, LDLo

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 7060 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 3450 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = 124.7 mg/l (4-hr)
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = 39 mg/l (4-hr)
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Mildly to moderately irritating to the skin. It can cause brown stains on the skin.

Eye Contact: Causes serious eye irritation. Causes moderate to severe eye irritation.

Inhalation May cause irritation of respiratory tract. Symptoms may include coughing and shortness of breath. May cause tight feeling in chest and difficulty breathing. Symptoms may include burning sensation or pain in the nose and throat. May cause burning sensation in the chest. It may cause pulmonary edema. May cause nausea and headache. It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). May affect respiration (respiratory depression). Inhalation of high concentrations of vapor may cause anesthetic effects. May affect behavior/central nervous system (headache, fatigue, lack of concentration, reduced memory, hallucinations, stupor, unconciousness). Inhalation of high concentrations of vapors may cause dizziness or suffocation. May affect behavior/central nervous system (somnolence). May affect the brain.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause gastritis. May cause loss of appetite. May cause flushed skin. May affect the cardiovascular system (change in heart rate). May affect the cardiovascular system (hypotension or hypertension, tachycardia, dysrhythmias). It may affect behavior/central nervous system (excitation, mild euphoria, excessive talking, fatigue, headache, dizziness, drowsiness, staggaring gait, ataxia, hallucinations, slurred speech, amnesia, confusion, release of inhibitions, agressive behavior, convulsions, coma). May affect respiration (dyspnea, respiratory depression). It may affect the brain. May affect liver. May affect the blood. May affect the endocrine system. It may affect the spleen. May affect urinary system (kidneys).

Ingestion: May cause staining of mouth, lips, esophagus, mucous membranes

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated skin contact may cause dermatitis, and dryness and cracking of the skin. Prolonged or repeated ingestion may affect behavior/central nervous system. Prolonged or repeated ingestion may affect metabolism (cause anorexia, weight loss). Prolonged or repeated ingestion may affect the liver (fatty liver degeneration, cirrhosis of the liver. Skin: Prolonged or repeated skin contact may cause allergic skin reaction. Prolonged or repeated ingestion of Iodine/iodides may cause a reversible reduction in thyroid function (hypothyroidism, goiter, thyrotoxicosis), metabolic disturbances, and may affect the blood (anemia), liver, and kidneys . It may also lead to chronic Iodine/iodide poisoning (Iodism). Symptoms of Iodism include fever, rapid heartbeat, weakness, tremor, headache, delirium, stupor, insomnia, loss of appetite, salivation, foul breath, stomatitis, parotitis, diarrhea, gastric irritation, joint pain and swelling. Furthermore, chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter and cretinoid appearance in newborn. Prolonged or repeated inhalation of Iodine tincture vapors or mist may also cause disrupted thyroid activity, and cause chronic irritation of the throat, bronchitis, laryngitis, sneezing, nasal discharge.

Sensitization: May cause sensitization by skin contact.

Mutagenic Effects: May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: For Ethyl Alcohol:. Equivocal tumorigenic agent by Registery of Toxic Effects of Chemical Substances (RTECS) criteria. Confirmed Animal Carcinogen with Unknown Relevance to Humans. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ethyl Alcohol 200 proof	64-17-5	Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic beverages	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Present	Not listed	Not listed
Iodine	7553-56-2	Not listed	A4 Not Classifiable as a Human	Not listed	Not listed	Not listed	Not listed

			Carcinogen				
Potassium Iodide	7681-11-0	Not listed	A4 - Not Classifiable as a Human Carcinogen (listed as Iodides)	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity May damage fertility or the unborn child

Reproductive Effects: Causes adverse reproductive effects

Developmental Effects: May cause harm to the unborn child
May cause adverse developmental effects
Exposure to excessive amounts of iodine during pregnancy is capable of producing fetal hypothyrodism, severe goiter or cretinism in the offspring
Contains Potassium Iodide which may cause adverse development effects based on animal data. Chronic ingestion of iodides (in animals) during pregnancy has resulted in fetal deaths, severe goiter, adn cretinoid appearance of the newborn

Teratogenic Effects: For Ethyl alcohol:
Causes birth defects (teratogenic effects)
For Potassium Iodide:
May cause birth defects (teratogenic effects) based on animal test data

Specific Target Organ Toxicity

STOT - single exposure Respiratory system. central nervous system.

STOT - repeated exposure liver. central nervous system. Skin. Reproductive System.

Target Organs: Skin. Liver. Central nervous system. Nervous system. Heart. Thyroid.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ethyl Alcohol 200 proof - 64-17-5

Freshwater Fish Species Data: 12.0 - 16.0 mL/L LC50 Oncorhynchus mykiss 96 h static 1
13400 - 15100 mg/L LC50 Pimephales promelas 96 h flow-through 1
100 mg/L LC50 Pimephales promelas 96 h static 1

Water Flea Data: 9268 - 14221 mg/L LC50 Daphnia magna 48 h
10800 mg/L EC50 Daphnia magna 24 h
2 mg/L EC50 Daphnia magna 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethyl Alcohol 200 proof	64-17-5	None	None	None	None
Iodine	7553-56-2	None	None	None	None
Potassium Iodide	7681-11-0	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No:	UN1170
Proper Shipping Name:	Ethanol solution
Hazard Class:	3
Subsidiary Class	No information available
Packing group:	II
Emergency Response Guide Number	127
Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	24, IB2, T4, TP1
Symbol(s):	No information available
Description:	UN1170,Ethanol solution ,3,,PG II

TDG (Canada)

UN-No:	UN1170
Proper Shipping Name:	Ethanol solution
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Marine Pollutant	No Information available
Description:	ETHANOL SOLUTION,3,UN1170,PG II

ADR

UN-No:	UN1170
Proper Shipping Name:	Ethanol solution
Hazard Class:	3
Packing Group:	II
Subsidiary Risk:	No information available
Special Provisions	144, 601
Description:	UN1170 Ethanol solution ,3,II

IMO / IMDG

UN-No:	UN1170
Proper Shipping Name:	Ethanol solution
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Marine Pollutant	No information available
EMS:	F-E
Special Provisions	144

RID

UN-No: UN1170
Proper Shipping Name: Ethanol solution
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Special Provisions 144, 601
Description: UN1170 Ethanol solution,3,II,RID

ICAO

UN-No: UN1170
Proper Shipping Name: Ethanol solution
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: Ethanol solution,3,UN1170,PG II
Special Provisions A58, A180, A3

IATA

UN-No: UN1170
Proper Shipping Name: Ethanol solution
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3L
Special Provisions No information available
Description: UN1170,Ethanol solution,3,PG II

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ethyl Alcohol 200 proof	64-17-5	Present	KE-13217	Present	(2)-202	Present	Present	Present 200-578-6
Iodine	7553-56-2	Present	Present KE-21023	Present	Not present	Present	Present	Present 231-442-4
Potassium Iodide	7681-11-0	Present	Present KE-29149	Present	Present (1)-439	Present	Present	Present 231-659-4

U.S. Regulations

Ethyl Alcohol 200 proof

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0844
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
Louisana Reportable Quantity List for Pollutants: Present (listed as Volatile Organic Compounds)
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1293
FDA - 21 CFR - Total Food Additives 169.175 169.176 169.177 169.181 172.340 172.560 172.580 175.105 176.180 176.200 177.1200 177.1650 178.1010 184.1293 73.30 73.345 73.615

Iodine

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1026
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present

Potassium Iodide

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1634
FDA - Direct Food Additives 21 CFR 172.375

FDA - 21 CFR - Total Food Additives 100.155 172.375 178.1010 184.1634 582.80

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
WARNING: This product contains a chemical known to the State of California to cause cancer. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (See table below)

Components	CAS-No.	**Carcinogen**	**Developmental Toxicity**	**Male Reproductive Toxicity**	**Female Reproductive Toxicity:**
Ethyl Alcohol 200 proof	64-17-5	carcinogen (listed as Ethanol in alcoholic beverages)	developmental toxicity (Ethyl alcohol in alcoholic beverages)	Not Listed	Not Listed
Iodine	7553-56-2	Not Listed	Not Listed	Not Listed	Not Listed
Potassium Iodide	7681-11-0	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	**CERCLA - Hazardous Substances and their Reportable Quantities**	**Section 302 Extremely Hazardous Substances and TPQs**	**Section 302 Extremely Hazardous Substances and RQs**	**Section 313 - Chemical Category**	**Section 313 - Reporting de minimis**
Ethyl Alcohol 200 proof	64-17-5	None	None	None	None	None
Iodine	7553-56-2	None	None	None	None	None
Potassium Iodide	7681-11-0	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	**TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)**	**TSCA 8(d) -Health and Safety Reporting**
Ethyl Alcohol 200 proof	64-17-5	Not Applicable	Not Applicable
Iodine	7553-56-2	Not Applicable	Not Applicable
Potassium Iodide	7681-11-0	Not Applicable	Not Applicable

Canada

WHMIS hazard class:
B2 Flammable liquid
D2B Toxic materials
D2A Very toxic materials

Components	**WHIMHAZ**
Ethyl Alcohol 200 proof	B2 D2B
Iodine	D2A E
Potassium Iodide	D2A

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	**WHMIS Ingredient Disclosure List -**
Ethyl Alcohol 200 proof	0.1 %
Iodine	1 %
Potassium Iodide	1 %

Inventory

Components	CAS-No.	**Canada (DSL)**	**Canada (NDSL)**

Ethyl Alcohol 200 proof	64-17-5	Present	Not Listed
Iodine	7553-56-2	Present	Not Listed
Potassium Iodide	7681-11-0	Present	Not Listed

Components	CAS-No.	**CEPA Schedule I - Toxic Substances**
Ethyl Alcohol 200 proof	64-17-5	Not listed
Iodine	7553-56-2	Not listed
Potassium Iodide	7681-11-0	Not listed
Components	CAS-No.	**CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting**
Ethyl Alcohol 200 proof	64-17-5	Not listed
Iodine	7553-56-2	Not listed
Potassium Iodide	7681-11-0	Not listed

EU Classification

R-phrase(s)

R11 - Highly flammable.
R36/37/38 - Irritating to eyes, respiratory system and skin.

S -phrase(s)

S 7 - Keep container tightly closed.
S16 - Keep away from sources of ignition - No smoking.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 - Wear suitable gloves.

Components	CAS-No.	**Classification**	**Concentration Limits:**	**Safety Phrases**
Ethyl Alcohol 200 proof	64-17-5	F; R11	No information	S7 S16
Iodine	7553-56-2	Xn; R20/21 N; R50	No information	S2 S23 S25 S61
Potassium Iodide	7681-11-0		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
F - Highly flammable.

F

16. OTHER INFORMATION

Preparation Date: 8/17/2016
Revision Date: 8/17/2016
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against

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End of Safety Data Sheet