1. IDENTIFICATION

Product identifier

Product code: CO120
Product Name: COLLODION, USP

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

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000.

Order Online At: https://www.spectrumchemical.com
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

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)

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 1</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

Danger

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
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
Extremely flammable liquid and vapor

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Tends to form explosive peroxides when exposed to air, light and evaporated to dryness

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 eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
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
Keep cool
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
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.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

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

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

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>69-73</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>22-26</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>5</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**Product code:** CO120  **Product name:** COLLODION, USP
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 not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Causes serious eye irritation. Causes skin irritation. May cause irritation of respiratory tract. Central nervous system effects. Dizziness. Drowsiness. anesthetic. May damage fertility or the unborn child. May affect the liver. May affect the cardiovascular system. It may cause dermatitis. May cause anorexia. May affect respiration.

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 oxides

Specific hazards:

Extremely Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. 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). Burns with smokey greenish flame. Violent reaction or ignition on contact with halogens (e.g., bromine, chlorine), interhalogens (e.g., iodine heptafluoride), oxidants (e.g., silver perchlorate, nitrosyl perchlorate, nitryl perchlorate, chromyl chloride, fluoride nitrate, permanganic acid, nitric acid, hydrogen peroxide, peroxydisulfuric acid, iodine (VII) oxide, sodium peroxide,

Product code: CO120  Product name: COLLODION, USP
ozone, and liquid air), sulfur and sulfur compounds (e.g., sulfur when dried with peroxidized ether, sulfuryl chloride). (Ethyl ether)

Tends to form explosive peroxides under influence of light and air and when evaporated to dryness. Explosive reaction with boron triazide, bromine trifluoride, bromine pentfluoride, perchloric acid, uranyl nitrate + light, wood pulp extracts + heat.

Only electrical equipment of explosion proof type (group C classification) is permitted to be operated in ether areas. May explode when brought in contact with anhydrous nitric acid. (Ethyl ether).

**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. Dike fire-control water for later disposal; do not scatter the material.

**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:**
Keep people away from and upwind of spill/leak. Ensure adequate ventilation. 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 product from entering drains. 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. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:
Acids
Alkalis
Bases
Oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>400 ppm TWA 1200 mg/m³ TWA</td>
<td>None</td>
<td>500 ppm STEL 400 ppm TWA</td>
<td>None</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA 1900 mg/m³ TWA</td>
<td>1000 ppm TWA 1900 mg/m³ TWA</td>
<td>1000 ppm STEL None</td>
<td></td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Canada

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Canada - Alberta</th>
<th>Canada - British Columbia</th>
<th>Canada - Ontario</th>
<th>Canada - Quebec</th>
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<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>400 ppm TWA 1210 mg/m³ TWA 500 ppm STEL 1520 mg/m³ STEL</td>
<td>400 ppm TWA 500 ppm STEL</td>
<td>400 ppm TWA 500 ppm STEL</td>
<td>400 ppm TWA 1210 mg/m³ TWA 500 ppm STEL 1520 mg/m³ STEL</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA 1880 mg/m³ TWA</td>
<td>1000 ppm STEL</td>
<td>1000 ppm STEL</td>
<td>1000 ppm TWA 1880 mg/m³ TWA</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>

Australia and Mexico

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>500 ppm STEL 1520 mg/m³ STEL</td>
<td>400 ppm TWA 1200 mg/m³ TWA 500 ppm STEL 1500 mg/m³ STEL</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA 1880 mg/m³ TWA</td>
<td>1000 ppm TWA 1900 mg/m³ TWA</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

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

Product code: CO120
Product name: COLLODION, USP
Personal Protective Equipment

**Eye protection:** Goggles

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

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

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

---

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Ethereal.</td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
<td>Viscous.</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>Clear. Colorless to pale yellow.</td>
</tr>
<tr>
<td><strong>Molecular/Formal weight:</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Flammability:</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Flash Point Tested according to:</strong></td>
<td>Closed cup</td>
</tr>
<tr>
<td><strong>Autoignition Temperature (°C/°F):</strong></td>
<td>The lowest known value is 180°C/356°F 1.9</td>
</tr>
<tr>
<td><strong>Upper Explosion Limit (%):</strong></td>
<td>36</td>
</tr>
<tr>
<td><strong>Boiling point/range(°C/°F):</strong></td>
<td>36.111°C/97°F</td>
</tr>
<tr>
<td><strong>Specific gravity:</strong></td>
<td>0.765-0.775</td>
</tr>
<tr>
<td><strong>Evaporation rate:</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Odor threshold (ppm):</strong></td>
<td>The highest known value is 100 ppm (Ethyl alcohol 200 Proof) Weighted average: 22.87 ppm</td>
</tr>
<tr>
<td><strong>Miscibility:</strong></td>
<td>No information available</td>
</tr>
<tr>
<td><strong>Solubility:</strong></td>
<td>Very slightly soluble in cold water</td>
</tr>
</tbody>
</table>

---

### 10. STABILITY AND REACTIVITY

**Reactivity**
Ethyl Ether:
Air and light sensitive. Also incompatible with bromoazide, chlorine, chlorine trifluoride, chromic anhydride, chromyl chloride, lithium aluminum hydride, nitrosyl perchlorate, nitrile perchlorate, ozone, perchloric acid, permanganates, sulfuric acid, potassium peroxide, sodium peroxide, triethyl aluminum trimethyl aluminum, bromine, iodine heptafluoride, silver perchlorate, fluorine nitrate, permanganic acid, nitric acid, hydrogen peroxide, peroxydisulfuric acid, iodine (VII) oxide, peat soils, thioriazyl perchlorate, sulfonyl chloride, sulfur, uranyl nitrate, acetyl peroxide, and wood pulp extracts.
Can react vigorously with acetyl peroxide, air, bromoazide, CIF3, CrO3, Cr(OCl)2, LiAIH2, NOClO4, O2, NCIO2, (H2SO4 + permanganates), K2O2, [(C2H5)3Al + air], [(CH3)3Al + air].

**Product code:** CO120  **Product name:** COLLODION, USP
Ethyl Alcohol:
Ethanol rapidly absorbs moisture from the air.
Can react vigorously with oxidizers.
The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chlorate, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodeine 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, chlorine.
Ethanol can react vigorously/explosively with the following: acetyl bromide (evolves hydrogen bromide), acetyl chloride, aluminum sesquibromide ethylate, ammonia + silver nitrate (forms silver nitride and silver fulminate), isocyanates, halogens, hydrazine, caustics (ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), acid anhydrides, ammonia or hyrazine + silver (I) oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + phosphorus (forms ethane iodide), iodine + methanol + mercuric oxide, magnesium perchlorate (forms ethyl perchlorate), manganese perchlorate + 2,2-dimethoxy propane, perchlorates, chromates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver + nitric acid (forms silver fulminate), silver nitrate (forms ethyl nitrate), sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorisilane + water, mercuric nitrate, acetic anhydride + sodium hydrosulfate, disulfuric acid + nitric acid, phosphorous (III) oxide, potassium tert-butoxide + acids, alkali metals (liberates flammable hydrogen gas).
Ethanol is also incompatible with platinum, and sodium (liberates flammable hydrogen gas).
No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled.
Reacts vigorously with acetyl chloride.
It can react with freshly cut/etched/scratched aluminum (evolution of heat and release hydrogen gas). The Ethyl alcohol has to be on the aluminum surface as it is being cut/etched/etched.
Note: This mixture can be incompatible with amines.

Chemical stability

Stability: Tends to form explosive peroxides when exposed to air and light. Avoid allowing Nitrocellulose resin to become dry and avoid friction and impact to any quantity of dry resin. Dry nitrocellulose resin is extremely flammable and burns explosively and is friction and impact sensitive.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur


Incompatible Materials: Acids
Alkalis
Bases
Oxidizing agents

Hazardous decomposition products: Carbon oxides.

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: Eyes. Ingestion. Inhalation. Skin.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (oral) 1601 mg/kg

Product code: CO120 Product name: COLLODIION, USP
Component Information

Ethyl Ether
CAS-No. 60-29-7
LD50/oral/rat = 1215 mg/kg Oral LD50 Rat
LD50/oral/mouse = 1760 mg/kg
LD50/dermal/rabbit = >20 mL/kg Dermal LD50 Rabbit
LD50/dermal/rat = No information available
LC50/inhalation/rat = 32000 ppm 4 hr
LC50/inhalation/mouse = 130000 mg/m³ 3 hr
31000 ppm 30 M
Other LD50 or LC50 information = No information available

Ethyl Alcohol 190 proof
CAS-No. 64-17-5
LD50/oral/rat = 7060 mg/kg Oral LD50 Rat (for Ethyl alcohol 200 proof)
LD50/oral/mouse = 3450 mg/kg (for Ethyl alcohol 200 proof)
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 124.7 mg/L Inhalation LC50 Rat 4 h (for Ethyl alcohol 200 proof)
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = For Ethyl Alcohol 200 proof:
>60000 ppm Inhalation LC50 Mouse 1 h
5900 mg/m³ 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

Pyroxylin
CAS-No. 9004-70-0
LD50/oral/rat = > 5 g/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = No information available

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

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 = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

**Symptoms**

**Skin Contact:** Causes skin irritation.

**Eye Contact:** Causes serious eye irritation. May cause conjunctivitis.

**Inhalation**

Irritating to respiratory system. Inhalation of high concentrations of vapors may cause dizziness or suffocation. Inhalation of high concentrations of vapor may cause anesthetic effects. Vapor mist causes irritation of the respiratory tract and mucous membranes. It may cause nausea, vomiting, excessive salivation, excessive sweating. It can affect behavior/central nervous system, cardiovascular system, respiratory system. Other symptoms may include excitement, depression, personality changes, confusion, convulsions, drowsiness, dizziness, faintness, irritability, loss of memory, headache, fatigue, slurred speech, ataxia, euphoria, anesthetic effects, possible coma, bradycardia (slow heart rate or tachycardia (fast heart rate), cardiac arrhythmias, irregular respiration or respiratory depression, coughing, bronchodilation, increase in respiratory rate.

**Ingestion**

Harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, gastritis, abdominal distension, loss of appetite, flushed skin, May affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitement, mild euphoria, slurred speech, drowsiness, staggering gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, convulsions, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripheral nervous system (spastic paralysis) vision (diplopia), blood (changes in serum composition), liver, kidneys. Aspiration into the lungs can cause chemical pneumonitis.

**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 defatting, dryness, and cracking of the skin. Prolonged or repeated ingestion or inhalation may cause loss of appetite and weight loss. Prolonged or repeated ingestion or inhalation may affect the liver.

**Sensitization:**

No information available.

**Mutagenic Effects:**

For Ether:
May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects
Animal experiments showed mutagenic effects

**Carcinogenic effects:**

Not considered carcinogenic.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
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</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Group 1 - Monograph 100E [2012] in alcoholic beverages Monograph 96 [2010] in alcoholic</td>
<td>A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans</td>
<td>Not listed</td>
<td>Present</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Product code:** CO120  
**Product name:** COLLODION, USP
Pyroxylin 9004-70-0 Not listed Not listed 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
Teratogenic Effects: May cause birth defects (teratogenic effects)

Specific Target Organ Toxicity
STOT - single exposure: Respiratory Tract.
STOT - repeated exposure: Causes damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ecotoxicity effects: Aquatic environment.

Ethyl Ether - 60-29-7
Freshwater Fish Species Data: 2560 mg/L LC50 Pimephales promelas 96 h flow-through 1 10000 mg/L LC50 Lepomis macrurus 96 h static 1

Ethyl Alcohol 190 proof - 64-17-5
Freshwater Fish Species Data: 12.0 - 16.0 mL/L LC50 Oncorhynchus mykiss 96 h static 1 100 mg/L LC50 Pimephales promelas 96 h static 1 13400 - 15100 mg/L LC50 Pimephales promelas 96 h flow-through 1

Water Flea Data: 9268 - 14221 mg/L LC50 Daphnia magna 48 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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
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<td>None</td>
<td>None</td>
<td>U117 ignitable waste</td>
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<td>None</td>
<td>None</td>
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<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
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</tbody>
</table>

Product code: CO120  Product name: COLLODION, USP
14. TRANSPORT INFORMATION

**DOT**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose, solution, flammable
- **Hazard Class:** 3
- **Subsidiary Class:** No information available
- **Packing group:** II
- **Emergency Response Guide Number:** No information available
- **Marine Pollutant:** No data available
- **DOT RQ (lbs):** No information available
- **Special Provisions:** No Information available
- **Symbol(s):** No information available
- **Description:** UN2059, Nitrocellulose, solution, flammable, 3, PG II

**TDG (Canada)**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose solution, flammable
- **Hazard Class:** 3
- **Subsidiary Risk:** No information available
- **Packing Group:** II
- **Marine Pollutant:** No Information available
- **Description:** UN2059, NITROCELLULOSE SOLUTION, FLAMMABLE, 3, PG II

**ADR**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose solution, flammable
- **Hazard Class:** 3
- **Packing Group:** II
- **Subsidiary Risk:** No information available
- **Description:** UN2059 Nitrocellulose solution, flammable, 3, II

**IMO / IMDG**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose solution, flammable
- **Hazard Class:** 3
- **Subsidiary Risk:** No information available
- **Packing Group:** II
- **Marine Pollutant:** No information available
- **EMS:** F-E

**RID**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose solution, flammable
- **Hazard Class:** 3
- **Subsidiary Risk:** No information available
- **Packing Group:** II
- **Description:** UN2059 Nitrocellulose solution, flammable, 3, II

**ICAO**
- **UN-No:** UN2059
- **Proper Shipping Name:** Nitrocellulose solution, flammable
- **Hazard Class:** 3
- **Subsidiary Risk:** No information available
- **Packing Group:** III
- **Description:** UN2059, Nitrocellulose solution, flammable, 3, PG III
IATA
UN-No: UN2059
Proper Shipping Name: Nitrocellulose solution, flammable
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3H
Special Provisions No information available
Description: UN2059, Nitrocellulose solution, flammable, 3, PG II

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Present</td>
<td>Present KE-27690</td>
<td>Present</td>
<td>Present (2)-365,(2)-361</td>
<td>Present</td>
<td>Present</td>
<td>Present 200-467-2</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Present</td>
<td>Present KE-13217</td>
<td>Present</td>
<td>Present (2)-202</td>
<td>Present</td>
<td>Present</td>
<td>Present 200-578-6</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Present XU</td>
<td>Present KE-25980</td>
<td>Present</td>
<td>Present (8)-176</td>
<td>Present</td>
<td>Present</td>
<td>Not present</td>
</tr>
</tbody>
</table>

U.S. Regulations

**Ethyl Ether**
- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0701
- New Jersey (EHS) List: 0701 500 lb TPQ
- New Jersey - Discharge Prevention - List of Hazardous Substances: Present
- New Jersey TCPA - EHS: 10000lb TQ
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List: Present
- Minnesota - Hazardous Substance List: Present
- New York Release Reporting - List of Hazardous Substances: 100 lb RQ
- Louisiana Reportable Quantity List for Pollutants: 100lbfinal RQ
  45.4kgfinal RQ
- California Directors List of Hazardous Substances: Present

**Ethyl Alcohol 190 proof**
- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0844
- Pennsylvania RTK: Present
- Minnesota - Hazardous Substance List: Present
- 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

**Pyroxylin**
- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 1366
- Pennsylvania RTK: Present


**Chemicals Known to the State of California to Cause Cancer:**

⚠️ WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

⚠️ WARNING: This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Product code: CO120  Product name: COLLODION, USP
Components | CAS-No. | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity |
---|---|---|---|---|---|
Ethyl Ether | 60-29-7 | Not Listed | Not Listed | Not Listed | Not Listed |
Ethyl Alcohol 190 proof | 64-17-5 | carcinogen | developmental toxicity | Not Listed | Not Listed |
Pyroxylin | 9004-70-0 | 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 Ether | 60-29-7 | 100 lb final RQ 45.4 kg final RQ | None | None | None | None |
Ethyl Alcohol 190 proof | 64-17-5 | None | None | None | None | None |
Pyroxylin | 9004-70-0 | 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 Ether | 60-29-7 | Not Applicable | 01/26/199406/30/1998 |
Ethyl Alcohol 190 proof | 64-17-5 | Not Applicable | Not Applicable |
Pyroxylin | 9004-70-0 | Not Applicable | Not Applicable |

Canada

WHIMIS 2015 - GHS Classifications

WHIMIS 2015 Hazard Classification Information:

Component
Ethyl Ether 60-29-7 (69-73)
Ethyl Alcohol 190 proof 64-17-5 (22-26)
Pyroxylin 9004-70-0 (5)

WHIMIS 2015 Hazard Classification
Flammable liquids - Category 1: H224 Extremely flammable liquid and vapour.; Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.; Specific target organ toxicity - Single exposure - Category 3: H336 May cause drowsiness or dizziness.
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2B: H320 Causes eye irritation.
Flammable solids - Undefined: Flammable solids - undefined category; Self-reactive substances and mixtures - Undefined: Self reactive substance - undefined category (This product is an explosive according to the TDG and it also corresponds to a Self-reactive substance according to the HPR); Combustible Dust - Category 1: May form combustible dust concentrations in air (if 5% or more by weight of its composition has a particle size <500 µm); Physical Hazards Not Otherwise Classified - Category 1: May cause an explosion under conditions of shock and/or friction

Canada Hazardous Products Regulation
This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHIMIS 1988 Hazard Class
B2 Flammable liquid
D2B Toxic materials

Components

| Product code: CO120 | Product name: COLLODION, USP | WHIMIS 1988 |
---|---|---|
Ethyl Ether | B2 |
Ethyl Alcohol 190 proof | B2,D2B |
Pyroxylin | B4,F |
**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.

<table>
<thead>
<tr>
<th>Components</th>
<th>WHMIS Ingredient Disclosure List -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>1%</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>0.1%</td>
</tr>
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</table>

### Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

### Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CEPA Schedule I - Toxic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Not listed</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Not listed</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

### EU Classification

#### EU GHS - SV - CLP 172/2008

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>EU GHS - SV - CLP (172/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Flammable liquids - Flam. Liq. 1: H224 Extremely flammable liquid and vapour.; Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.; Supplemental Hazards: EUH019 May form explosive peroxides.; Supplemental Hazards: EUH066 Repeated exposure may cause skin dryness or cracking.603-022-00-4</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.603-002-00-5</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Explosives - Expl. 1.1: H201 Explosive; mass explosion hazard.603-037-00-6</td>
</tr>
</tbody>
</table>

#### EU - CLP (1272/2008)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>F+; R12 R19</td>
<td>No information</td>
<td>S2 S9 S16 S9 S33</td>
</tr>
</tbody>
</table>

**Product code:** CO120  
**Product name:** COLLODION, USP
Ethyl Alcohol 190 proof | 64-17-5 | F; R11 | No information | S7 S16

Pyroxylin | 9004-70-0 | E; R3 | No information | S2 S35

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

**Indication of danger:**
F - Highly flammable.
Xn - Harmful.

**16. OTHER INFORMATION**

**Preparation Date:** 6/17/2015  
**Revision Date:** 4/18/2017  
**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 infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet