Not appropriate for regulatory submission. Please visit www.spectrumchemical.com or contact Tech Services for the most up-to-date information contained in this information package.
Dear Customer,

Thank you for your interest in Spectrum’s quality products and services.

Spectrum has been proudly serving the scientific community for over 45 years. It is our mission to manufacture and distribute fine chemicals and laboratory products with Quality and delivery you can count on every time.

To accomplish our mission, Spectrum utilizes our sourcing leverage and supplier qualification expertise in offering one of the industry’s most comprehensive line of fine chemical products under one brand, in packaging configurations designed to meet your research and production requirements. Our product grades include: USP, NF, BP, EP, JP, FCC, ACS, KSA, Reagent grade, as well as DEA controlled substances. We operate facilities in the United States on the East Coast, West Coast, as well as in Shanghai, China in order to provide the best logistical support for our customers.

At Spectrum, Quality is priority number one. Suppliers with the best qualifications are preferred and we employ full-functioning in-house analytical laboratories at each of our facilities. Our facilities and systems are USFDA registered and ISO certified. We frequently host customer audits and cherish opportunities for improvements. Quality is engrained into our culture. Quality is priority number one.

In the following pages, we have designed and prepared documented scientific information to aid you in your initial qualification or your continual use of our products. Please do not hesitate to contact us if further information or the most up-to-date documentation is desired from any of the covered areas.

We appreciate your business and we look forward to hearing from you.

Sincerely,

Alan Wang, MSQA, ASQ CQA
Director of Technical Services
techservices@spectrumchemical.com
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- Safety Data Sheet (SDS)
- Manufacturer
- Certification of Quality Management System (QMS)
- Certification of current Good Manufacturing Practices (cGMP)
- Product BSE/TSE Statement
- Product Certificate of Analysis Sample(s)
- General Label Information – Sample Label
- General Lot Numbering System Guidance
- Stability – Shelf Life Guidance
## Specification for Flexible Collodion, USP (CO125)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>CO125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Flexible Collodion, USP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Molecular Formula</th>
<th>Molecular Weight</th>
<th>MDL Number</th>
<th>Synonyms</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIFIC GRAVITY @ 25°C</td>
<td>Min 0.770</td>
</tr>
<tr>
<td>ALCOHOL DETERMINATION (C₂H₅OH)</td>
<td>Min 21.0</td>
</tr>
<tr>
<td>ELEMENTAL IMPURITIES</td>
<td>AS REPORTED</td>
</tr>
<tr>
<td>IDENTIFICATION</td>
<td>TO PASS TEST</td>
</tr>
<tr>
<td>EXPIRATION DATE</td>
<td></td>
</tr>
<tr>
<td>DATE OF MANUFACTURE</td>
<td></td>
</tr>
<tr>
<td>APPEARANCE</td>
<td></td>
</tr>
<tr>
<td>RESIDUAL SOLVENTS</td>
<td>TO PASS TEST</td>
</tr>
</tbody>
</table>

---

**Spectrum Chemical Mfg Corp**

- **Corporate Headquarters:**
  
  760 Jersey Ave.  
  New Brunswick, NJ 08901  
  732.214.1300

- **West Coast Facility:**
  
  14422 S. San Pedro St.  
  Gardena, CA 90248  
  310.516.8000

---
SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier

Product code: CO125
Product Name: COLLODION, FLEXIBLE, 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>Hazard Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/iritation</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
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>65-69</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>21-25</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>5</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>3</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>2</td>
</tr>
</tbody>
</table>

Product code: CO125  Product name: COLLODION, FLEXIBLE, USP
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 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

Hazardous Combustion Products: No information available.

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, fluorine nitrate, permanganic acid, nitric acid, hydrogen peroxide, peroxodisulfuric acid, iodine (VII) oxide, sodium peroxide, 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 pentafluoride, 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:

Product code: CO125 Product name: COLLODION, FLEXIBLE, USP
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</td>
<td>None</td>
<td>500 ppm STEL</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1200 mg/m³ TWA</td>
<td></td>
<td>400 ppm TWA</td>
<td></td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWA</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>= 2 mg/m³ TWA</td>
<td>= 2 mg/m³ TWA</td>
<td>= 3 ppm STEL</td>
<td>None</td>
</tr>
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**Canada**

<table>
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<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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</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>400 ppm TWA</td>
<td>400 ppm TWA</td>
<td>400 ppm TWA</td>
<td>400 ppm TWAEV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1210 mg/m³ TWA</td>
<td>500 ppm STEL</td>
<td>1210 mg/m³ TWA</td>
<td>1210 mg/m³ TWAEV</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWA</td>
<td>1000 ppm TWAEV</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
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<td>= 2 ppm TWA</td>
<td>2 ppm TWA</td>
<td>2 ppm TWAEV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>= 2 ppm TWA</td>
<td></td>
<td></td>
<td>12 mg/m³ TWAEV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>3 ppm STEV</td>
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<td>19 mg/m³ STEV</td>
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**Australia and Mexico**

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<th>Components</th>
<th>CAS-No.</th>
<th>Australia</th>
<th>Mexico</th>
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<tbody>
<tr>
<td>Ethyl Ether</td>
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<td>500 ppm STEL</td>
<td>400 ppm TWA</td>
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<tr>
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<td>1200 mg/m³ TWA</td>
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<td>400 ppm TWA</td>
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<tr>
<td></td>
<td></td>
<td>1500 mg/m³ STEL</td>
<td>1500 mg/m³ STEL</td>
</tr>
</tbody>
</table>
### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid  
**Appearance:** Viscous.  
**Color:** Clear. Colorless to pale yellow.  
**Odor:** Ethereal.  
**Taste:** No information available.  
**Molecular/Formula weight:** No information available  
**Flammability:** Extremely flammable  
**Flashpoint (°C/°F):** -45°C/-49°F  
**Flash Point Tested according to:** Closed cup  
**Lower Explosion Limit (%):** 0.6  
**Upper Explosion Limit (%):** 36  
**Decomposition temperature(°C/°F):** No information available  
**Boiling point/range(°C/°F):** 36.111°C/97°F  
**Density (g/cm3):** No information available  
**Specific gravity:** 0.77-0.79  
**Vapor pressure @ 20°C (kPa):** The highest known value is 58.6 kPa (@ 20°C) (Ethyl ether). Weighted  
**Formula:** No information available  
**Flash point (°C):** -45  
**Autoignition Temperature (°C/°F):** The lowest known value is 180°C/356°F (Ethyl ether)  
**Melting point/range(°C/°F):** No information available  
**Bulk density:** No information available  
**pH:** Neutral  

### 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  
**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.
Reactivity
Ethyl Ether:
Air and light sensitive. Also incompatible with bromoazide, chloride, chlorine trifluoride, chromic anhydride, chromyl chloride, lithium aluminum hydride, nitrosyl perchlorate, nitril perchlorate, ozone, perclorlic 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, peroxodisulfuric acid, iodine (VII) oxide, peat soils, thiotriazyl perchlorate, sulfonyl chloride, sulfur, uranyl nitrate, acetyl peroxyde, and wood pulp extracts.
Can react vigorously with acetyl peroxide, air, bromoazide, ClF3, CrO3, Cr(OCl)2, LiAlH2, NOClO4, O2, NClO2, (H2SO4 + permanganates), K2O2, [(C2H5)3Al + air], [(CH3)3Al + air].
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 pentfluoride, calcium hypochlorite, chlorate, 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 nitrate, 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 hydrazine + silver (I) oxide, carbonate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + phosphorus (forms ethene 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 hydroxymonomethyl sulfate, disulfuric acid + nitric acid, phosphorus (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/scratched/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

Conditions to avoid:

Incompatible Materials:
Acids
Alkalis
Bases
Oxidizing agents

Product code: CO125
Product name: COLLODION, FLEXIBLE, USP
**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

**Component Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>LD50/oral/rat</th>
<th>LD50/oral/mouse</th>
<th>LD50/dermal/rabbit</th>
<th>LD50/dermal/rat</th>
<th>LC50/inhalation/rat</th>
<th>LC50/inhalation/mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>1215 mg/kg Oral</td>
<td>1760 mg/kg Oral</td>
<td>&gt;20 mL/kg Dermal</td>
<td>No information available</td>
<td>32000 ppm 4 hr</td>
<td>130000 mg/m³ 3 hr</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>7060 mg/kg Oral (for Ethyl alcohol 200 proof)</td>
<td>3450 mg/kg (for Ethyl alcohol 200 proof)</td>
<td>No information available</td>
<td>No information available</td>
<td>124.7 mg/L Inhalation</td>
<td>No information available</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>&gt;5 g/kg Oral</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
<td>No information available</td>
</tr>
</tbody>
</table>

---

**Product code:** CO125  
**Product name:** COLLODION, FLEXIBLE, USP
Camphor (DL)
CAS-No. 76-22-2

Product Information

LD50/oral/rat = No information available
LD50/oral/mouse = 1310 mg/kg Oral LD50 Mouse
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

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,

Product code: CO125 Product name: COLLODION, FLEXIBLE, USP
vomiting, diarrhea, gastritis, abdominal distension, loss of appetite, flushed skin. May affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, drowsiness, staggering gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, convulsions, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetis) 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>
</tr>
</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 beverages</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>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</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>Castor Oil</td>
<td>8001-79-4</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>Camphor (DL)</td>
<td>76-22-2</td>
<td>Not listed</td>
<td>A4 Not Classifiable as a Human Carcinogen</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

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)

Product code: CO125
Product name: COLLODION, FLEXIBLE, USP
**Specific Target Organ Toxicity**

STOT - single exposure  
Respiratory Tract.

STOT - repeated exposure  
Causes damage to organs through prolonged or repeated exposure.

Target Organs:  

---

**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 macrochirus 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:  
*Camphor (DL) - 76-22-2*  
Freshwater Fish Species 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>
<td>60-29-7</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>U117 ignitable waste</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

---

**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  
No information available

**Product code:** CO125  
**Product name:** COLLODION, FLEXIBLE, USP
Number
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
Subsidiary Risk: No information available
Packing Group: II
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

Product code: CO125  Product name: COLLODION, FLEXIBLE, USP
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 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 KE-13217</td>
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<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>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>Present</td>
<td>Present KE-04979</td>
<td>Present</td>
<td>Present (4)-308 (4)-601</td>
<td>Present</td>
<td>Present</td>
<td>Present KE-04979</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: 10000lbTQ
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List Present
- Minnesota - Hazardous Substance List: Present
- 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

**FDA - Direct Food Additives**
- 21 CFR 172.510 21 CFR 172.876

**FDA - 21 CFR - Total Food Additives**
- 172.510 172.876 175.105 175.300 176.210 177.2600 177.2800 178.3520 178.3910 178.3910 73.1

**Castor Oil**
- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 0334
- Pennsylvania RTK: Present
- Minnesota - Hazardous Substance List: Present
- California Directors List of Hazardous Substances: Present

**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 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.

Product code: CO125  Product name: COLLODION, FLEXIBLE, USP
**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.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity:</th>
</tr>
</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>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>carcinogen</td>
<td>developmental toxicity</td>
<td>Not Listed</td>
<td>Not Listed</td>
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<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
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<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

### CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>100 lb final RQ 45.4 kg final RQ</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>None</td>
</tr>
</tbody>
</table>

### U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>Not Applicable</td>
<td>01/26/199406/30/1998</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

### Canada

**WHIMIS 2015 - GHS Classifications**

WHIMIS 2015 Hazard Classification Information:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>WHIMIS 2015 Hazard Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl Ether</td>
<td>60-29-7</td>
<td>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 &lt;500 μm); Physical Hazards Not Otherwise Classified - Category 1: May cause an explosion under conditions of shock and/or friction Self-heating substances and mixtures - Undefined: (hazard class was established from consulted scientific literature but did not allow to specify hazard category) Flammable solids - Category 2: H228 Flammable solid. (synthetic)</td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td></td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td></td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td></td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td></td>
</tr>
</tbody>
</table>

**Product code:** CO125  **Product name:** COLLODION, FLEXIBLE, USP
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

WHMIS 1988 Hazard Class
B2 Flammable liquid
D2B Toxic materials

Components
- Ethyl Ether
- Ethyl Alcohol 190 proof
- Pyroxylin
- Castor Oil
- Camphor (DL)

WHMIS 1988
- Ethyl Ether: B2
- Ethyl Alcohol 190 proof: B2, D2B
- Pyroxylin: B4, F
- Castor Oil: Uncontrolled product according to WHMIS classification criteria
- Camphor (DL): B4

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
- Ethyl Ether: 1 %
- Ethyl Alcohol 190 proof: 0.1 %
- Castor Oil: 1 %

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>84-17-5</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>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

Components
- Ethyl Ether: 60-29-7
- Ethyl Alcohol 190 proof: 84-17-5
- Pyroxylin: 9004-70-0
- Castor Oil: 8001-79-4
- Camphor (DL): 76-22-2

CEPA Schedule I - Toxic Substances
- Ethyl Ether: Not listed
- Ethyl Alcohol 190 proof: Not listed
- Pyroxylin: Not listed
- Castor Oil: Not listed
- Camphor (DL): Not listed

CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
- Ethyl Ether: Not listed
- Ethyl Alcohol 190 proof: Not listed
- Pyroxylin: Not listed
- Castor Oil: Not listed
- Camphor (DL): Not listed

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.;</td>
</tr>
</tbody>
</table>

Product code: CO125
Product name: COLLODION, FLEXIBLE, USP
Supplemental Hazards: EUH066
Repeated exposure may cause skin dryness or cracking.603-022-00-4

Ethyl Alcohol 190 proof 64-17-5 Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.603-002-00-5

Pyroxylin 9004-70-0 Explosives - Expl. 1.1: H201 Explosive; mass explosion hazard.603-037-00-6

Castor Oil 8001-79-4
Camphor (DL) 76-22-2

EU - CLP (1272/2008)

R-phrase(s)
R11 - Highly flammable.
R19 - May form explosive peroxides.
R22 - Harmful if swallowed.

S -phrase(s)
S46 - If swallowed, seek medical advice immediately and show this container or label.

<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</td>
<td>No information</td>
<td>S2 S9 S16 S9 S33</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Xn; R22 R66 R67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethyl Alcohol 190 proof</td>
<td>64-17-5</td>
<td>F; R11</td>
<td>No information</td>
<td>S7 S16</td>
</tr>
<tr>
<td>Pyroxylin</td>
<td>9004-70-0</td>
<td>E; R3</td>
<td>No information</td>
<td>S2 S35</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>8001-79-4</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
<tr>
<td>Camphor (DL)</td>
<td>76-22-2</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
</tbody>
</table>

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

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

![Xn](image) ![F](image)

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
Manufacturer

Product Covered: CO125, Flexible Collodion, USP

Spectrum takes ownership as the manufacturer for the Spectrum product listed above and provides full quality assurance, customer service, and technical product support.

While information concerning the raw material manufacturer of our starting materials is considered proprietary, such information can be made available upon request contingent on demonstration of business volume justification and successful execution of confidential disclosure agreement (CDA).

Requests for disclosure of proprietary raw material manufacturer information may be submitted to the assigned account representative for consideration.

Sincerely,

Alan Wang, MSQA, ASQ CQA
Director of Technical Services
techservices@spectrumanal.com
This is to certify that the quality management system of:

**Spectrum Chemicals and Laboratory Products, Inc.**

Main Site: 14422 South San Pedro Street, Gardena, California, 90248, USA,
Additional sites: 13915 South Main Street, Los Angeles, California, 90061, USA
769 Jersey Avenue, New Brunswick, New Jersey, 08901, USA
755 Jersey Avenue, New Brunswick, New Jersey, 08901, USA
777 Jersey Avenue, New Brunswick, New Jersey, 08901, USA
400 N. Oracle, Suite 221, Tucson, Arizona, 85704, USA, USA

has been assessed and registered by Intertek as conforming to the requirements of:

**ISO 9001:2015**

The quality management system is applicable to:

Main Site: The manufacture and distribution of specialty fine chemicals, solutions, equipment, supplies and products for the laboratory, pharmaceutical, food, healthcare, cosmetic, fragrance, biotechnology, environmental and process industries.

Certificate Number: 94-316m-03
Initial Certification Date: 27 December 1994
Certificate Issue Date: 31 July 2017
Certificate Expiry Date: 28 January 2019

Authorized Signature
Calin Moldovean
President Business Assurance

Intertek Testing Services NA, Inc. dba Intertek
900 Chelmsford Street, Lowell, MA, USA
This appendix identifies the locations by the management system of

Spectrum Chemicals and Laboratory Products, Inc.

755 and 769 Jersey Avenue: The manufacture and distribution of specialty fine chemicals, solutions, equipment, supplies and products for the laboratory, pharmaceutical, food, healthcare, cosmetic, fragrance, biotechnology, environmental and process industries.

777 Jersey Avenue: The manufacture and distribution of specialty fine chemicals, solutions, equipment, supplies and products for Compounding Pharmacies.

7400 N. Oracle: The manufacture and distribution of specialty fine chemicals, solutions, equipment, supplies and products for the laboratory, pharmaceutical, food, healthcare, cosmetic, fragrance, biotechnology, environmental and process industries.
Certificate of Registration

This is to certify that the quality management system of

Spectrum China Ltd.

Building A20, No. 3802, Shengang Road, Songjiang District, Shanghai, China

has been assessed and registered by Intertek as conforming to the requirements of

ISO 9001: 2008

The quality management system is applicable to:

Provision of service of purchase, testing and sales for chemical products, repacking of non-hazardous chemical products.

Organization Code: 77762704-8
Certificate Number: 111310001-01
Certificate Issue Date: 17 November 2015
Certificate Expiry Date: 14 September 2018

Authorised Signature: Calin Moldovean – President, Business Assurance
Intertek Certification Limited, 10A Victory Park, Victory Road, Derby DE24 8ZF, United Kingdom

Intertek Certification Limited is a UKAS accredited body under schedule of accreditation no. 014.

In the issuance of this certificate, Intertek assumes no liability to any party other than to the client, and then only in accordance with the agreed upon Certification Agreement. This certificate's validity is subject to the organization maintaining their system in accordance with Intertek's requirements for systems certification. Validity may be confirmed via email at certificate.validation@intertek.com or by scanning the code to the right with a smartphone.

The annual validity of the certificate can also be checked through the website http://www.cnca.gov.cn of CNCA in China.

The certificate remains the property of Intertek, to whom it must be returned upon request.
July 13, 2017

Certification of Compliance with current Good Manufacturing Practices

Dear Valued Customer:

Spectrum Chemical Mfg Corp certifies that our USP, NF, FCC, EP, BP, JP and food grade products are produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

Spectrum is an FDA registered and inspected Drug Establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

- Spectrum-Gardena, CA: 2020632
- Spectrum-New Brunswick, NJ: 2246824
- Spectrum-Shanghai, China: 3006174778

Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at qualityassurance@spectrumchemical.com

Sincerely,

Oralia Chavez
Quality Assurance Specialist
January 12, 2018

Certification of Compliance with current Good Manufacturing Practices

Dear Valued Customer:

Spectrum Chemical Mfg Corp certifies that the following product(s) is produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Product Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO125</td>
<td>Flexible Collodion, USP</td>
</tr>
</tbody>
</table>

Spectrum is an FDA registered and inspected Drug Establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

- Spectrum-Gardena, CA: 2020632
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- Spectrum-Shanghai, China: 03006174778

Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at qualityassurance@spectrumchemical.com

Sincerely,

Oralia Chavez
Quality Assurance Specialist
May 10, 2016

Re: Flexible Collodion, USP- CO125

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

We at Spectrum Chemical Mfr. Corp. understand the concern regarding Bovine Spongiform Encephalopathy (BSE). Please be assured that the chemical Flexible Collodion, USP- CO125 is BSE/TSE free.

If you have any further questions, please contact Tech Services at (310) 516-8000 Extension 5471, or by email at techservices@spectrumchemical.com.

Sincerely,

Darlene Dagdag-Lyudmirskiy
Technical Services
Spectrum Chemical Mfr. Corp.

This document has been produced electronically and is valid without a signature.
## Certificate Of Analysis

<table>
<thead>
<tr>
<th>Item Number</th>
<th>CO125</th>
<th>Lot Number</th>
<th>1HA0006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Flexible Collodion, USP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS Number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Formula</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test</th>
<th>Specification</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIFIC GRAVITY @ 25°C</td>
<td>0.770 - 0.790</td>
<td>0.785</td>
</tr>
<tr>
<td>ALCOHOL DETERMINATION (C₃H₆OH)</td>
<td>21.0 - 25.0%</td>
<td>24.76%</td>
</tr>
<tr>
<td>ELEMENTAL IMPURITIES</td>
<td>AS REPORTED</td>
<td>COMPLIES WITH STANDARD</td>
</tr>
<tr>
<td>IDENTIFICATION</td>
<td>TO PASS TEST</td>
<td>PASSES TEST</td>
</tr>
<tr>
<td>EXPIRATION DATE</td>
<td>30-NOV-2018</td>
<td></td>
</tr>
<tr>
<td>DATE OF MANUFACTURE</td>
<td>09-NOV-2017</td>
<td></td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>CLEAR COLORLESS LIQUID</td>
<td></td>
</tr>
<tr>
<td>RESIDUAL SOLVENTS</td>
<td>TO PASS TEST</td>
<td>NO RESIDUAL SOLVENTS USED</td>
</tr>
</tbody>
</table>

Spectrum Chemical Mfg Corp  
14422 South San Pedro Street  
Gardena 90248 CA

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and MSDS/SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personal only. The customer must ensure to provide its users adequate hazardous material training and appropriate protective gears before handling our chemicals.
## Certificate Of Analysis

<table>
<thead>
<tr>
<th>Item Number</th>
<th>CO125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot Number</td>
<td>2GJ0559</td>
</tr>
<tr>
<td>Item</td>
<td>Flexible Collodion, USP</td>
</tr>
</tbody>
</table>

### Test Specifications

<table>
<thead>
<tr>
<th>Test</th>
<th>Specification</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>建設</td>
<td>min</td>
<td>max</td>
</tr>
<tr>
<td>联结</td>
<td>0.770</td>
<td>0.790</td>
</tr>
<tr>
<td>Alcohol Determination (C₂H₅OH)</td>
<td>21.0</td>
<td>25.0 %</td>
</tr>
<tr>
<td>Elemental Impurities</td>
<td>AS REPORTED</td>
<td>COMPLIES WITH STANDARD</td>
</tr>
<tr>
<td>Identification</td>
<td>TO PASS TEST</td>
<td>PASSES TEST</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>31-OCT-2018</td>
<td></td>
</tr>
<tr>
<td>Date of Manufacture</td>
<td>01-OCT-2017</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>CLEAR COLORLESS LIQUID</td>
<td></td>
</tr>
<tr>
<td>Residual Solvents</td>
<td>TO PASS TEST</td>
<td>NO RESIDUAL SOLVENTS USED</td>
</tr>
</tbody>
</table>

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and MSDS/SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personal only. The customer must ensure to provide its users adequate hazardous material training and appropriate protective gears before handling our chemicals.
CO125 4 L Flexible Collodion U.S.P. CAS 9004-70-0

DANGER
- Extremely flammable liquid and vapor • Harmful if swallowed • Causes serious eye irritation • Causes skin irritation • May cause respiratory irritation • May cause drowsiness or dizziness • Causes damage to organs through prolonged or repeated exposure • May damage fertility or the unborn child • Tends to form explosive peroxides when exposed to air, light and evaporated to dryness.
- Obtain special instructions before use • Do not handle until all safety precautions have been read and understood • Keep away from heat, sparks, open flames, hot surfaces • No smoking • Ground container and receiving equipment • Use explosion-proof equipment • Use only non-sparking tools • Take precautionary measures against static discharge • Do not eat, drink or smoke when using this product • Wear protective gloves, protective clothing, eye protection, face protection • Do not breathe mist or vapors • Use only outdoors or in a well-ventilated area • Wash face, hands and any exposed skin thoroughly after handling.

FIRST AID:
Call a POISON CENTER or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Rinse mouth.

Components:
- Ethyl Ether .................................. CAS 60-29-7
- Ethyl Alcohol .................................. CAS 64-17-5
- Pyroxylin .................................. CAS 9004-70-0
- Castor Oil .................................. CAS 8001-79-4
- Camphor .................................. CAS 76-22-2

Specific Gravity @ 25°C ................. 0.770-0.790
Alcohol Content (C2H5OH) ............... 21.0-25.0%

MAXIMUM LIMITS
Residual Solvents ............................ To pass test

Store in a cool place (not above 30°C).

PRODUCT INFORMATION
The Spectrum label presents technical and safety information in an easily understood format. Our technical specialists stay abreast of the latest requirements of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS), as well as the Occupational Safety and Health Administration (OSHA), the Food and Drug Administration (FDA) and other government regulatory agencies in order to ensure compliance, accuracy and concise hazard communication.

ŚMART SCIENCE

COMPANY INFORMATION
Spectrum Chemical Mfg Corp
Corporate Headquarters:
769 Jersey Ave.
New Brunswick, NJ 08901
732.214.1300
West Coast Facility:
14422 S. San Pedro St.
Gardena, CA 90248
310.516.8000
January 26, 2016

RE: Lot Numbering System

Dear Valued Customer:

This letter is to inform you of Spectrum Chemicals and Laboratory Products’ Lot Numbering System. The system is based on an alpha-numerical sequence which provides the month, year and location of production.

The lot numbering system utilized until 2010 is a sequence of **six characters**, two letters followed by four numbers. The first letter represents the year, for example, Y denotes 2009 and Z denotes 2010. The second letter represents the month and site, for example, A-L denotes January through December at Spectrum’s Gardena, CA facility, while M-X denotes January through December at the New Brunswick, NJ facility. The following four numbers are sequentially assigned.

**Example**: ZI0928 = The 928th material produced in California in September 2010

The lot numbering system utilized for 2011 and forward, is a sequence of **seven characters**. The first character, a number, represents the production facility:

1 = Gardena, CA Facility  
2 = New Brunswick, NJ Facility  
3 = China Facility

The second character, a letter, represents the year. For example, A denotes 2011 and B denotes 2012. The third character, a letter, represents the month, with A denoting January and L denoting December. The following four numbers are sequentially assigned.

**Example**: 2AA0706 = The 706th material produced in New Jersey in January 2011

Thank you for your interest with Spectrum products. Please feel free to contact us at 310-516-8000 or via email at qualityassurance@spectrumchemical.com if we may be of further assistance.

Sincerely,

Michael Dang  
Manager, GMP Compliance
Stability – Shelf Life Guidance

Product Covered: CO125, Flexible Collodion, USP

Spectrum Chemical’s manufacturing partner has assigned the following shelf life guidance for the product listed above.

The product, CO125, Flexible Collodion, USP, is assigned a 12 months shelf life from date of manufacturing. The quality and integrity of the chemical depends on the handling and storage conditions. Please refer to the Safety Data Sheet for proper storage and handling procedures.

Adan R. Hernandez
Quality Control Manager

Corporate Headquarters
769 Jersey Avenue
New Brunswick, NJ 08901-3605

12.January.2018