

Section 1. Product and Company Identification

**Product Name** Flexible Collodion  
**CAS Number** Mixture

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
📞 (914) 654-6800 📠 (914) 654-6899  
🌐 [parchem.com](http://parchem.com) ✉ [info@parchem.com](mailto:info@parchem.com)

EMERGENCY RESPONSE NUMBER  
CHEMTEL  
Toll Free US & Canada: 1 (800) 255-3924  
All other Origins: 1 (813) 248-0585  
Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

Flammable Liquids: Category 2  
Acute Toxicity (oral): Category 4  
Serious Eye Damage/Eye Irritation: Category 2A  
Specific Target Organ Toxicity (Single Exposure): Category 2  
Specific Target Organ Toxicity (Single Exposure) (Narcotic effects): Category 3

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard statements**

H225: Highly flammable liquid and vapor.  
H302: Harmful if swallowed.  
H319: Causes serious eye irritation.  
H371: May cause damage to organs.  
H336: May cause drowsiness and dizziness.

**Precautionary statements**

**General:** Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.



**Prevention**

- P280: Wear protective gloves. Wear eye or face protection.
- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241: Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P233: Keep container tightly closed.
- P271: Use only outdoors or in a well-ventilated area.
- P260: Do not breathe vapor.
- P270: Do not eat, drink or smoke when using this product.
- P264: Wash hands thoroughly after handling.

**Response**

- P309 + P311: If exposed or if you feel unwell, call a poison center or physician.
- P304 + P340 + P312: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or physician if you feel unwell.
- P301 + P312 + P330: If swallowed, call a poison center or physician if you feel unwell. Rinse mouth.
- P303 + P361 + P353: If on skin (or hair), take off immediately all contaminated clothing. Rinse skin with water or shower.
- P305 + P351 + P338: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313: If eye irritation persists, get medical attention

**Storage**

- P405: Store locked up.
- P403: Store in a well-ventilated place.
- P235: Keep cool

**Disposal**

- P501: Dispose of contents and container in accordance with all local, regional, national and international regulations

**OSHA/HCS status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Hazards not otherwise classified:** None known

Section 3. Composition / Information on Ingredients

**Common Name** Flexible Collodion  
**CAS Number** Mixture

COMPONENT	CAS NUMBER	CONCENTRATION
Diethyl ether	60-29-7	60 – 100%
Ethyl Alcohol	64-17-5	10 – 30%
Bornan-2-one(camphor)	76-22-2	1 – 5%

#### Section 4. First Aid Measures

##### Description of necessary first aid measures

**Eye contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact:** Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse

**Ingestion:** Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

##### Most important symptoms/effects, acute and delayed

###### Potential acute health effects

**Eye contact:** Causes serious eye irritation

**Inhalation:** Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact:** No known significant effects or critical hazards

**Ingestion:** Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach

##### Over-exposure signs/symptoms

**Eye contact:** Adverse symptoms may include pain or irritation, watering, redness

**Inhalation:** Adverse symptoms may include nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.

**Skin contact:** No known significant effects or critical hazards

**Ingestion:** No known significant effects or critical hazards.



**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician:** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments:** No specific treatment

**Protection of first-aiders:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation

Section 5. Firefighting Measures

**Extinguishing media**

**Suitable extinguishing media:** Use dry chemical, CO<sub>2</sub>, water spray (fog), or foam.

**Unsuitable extinguishing media:** Do not use water jet or water-based fire extinguishers.

**Specific hazards arising from the chemical:** Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard

**Hazardous thermal decomposition products:** Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

**Special protective actions for firefighters:** Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool

**Special protective equipment for firefighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel"



**Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

#### **Methods and materials for containment and cleaning up**

**Small spill:** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill:** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

### Section 7. Handling and Storage

#### **Precautions for safe handling**

**Protective measures:** Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene:** Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities:** Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure Controls / Personal Protection

**Control parameters**

**Occupational exposure limits**

Diethyl ether	ACGIH TLV (United States, 4/2014).
	STEL: 1520 mg/m <sup>3</sup> 15 minutes.
	STEL: 500 ppm 15 minutes
	TWA: 1210 mg/m <sup>3</sup> 8 hours
	TWA: 400 ppm 8 hours
	OSHA PEL (United States, 2/2013).
	TWA: 1200 mg/m <sup>3</sup> 8 hours
TWA: 400 ppm 8 hours.	

Ethyl Alcohol	ACGIH TLV (United States, 4/2014)
	STEL: 1000 ppm 15 minutes
	NIOSH REL (United States, 10/2013).
	TWA: 1900 mg/m <sup>3</sup> 10 hours
	TWA: 1000 ppm 10 hours
	OSHA PEL (United States, 2/2013).
	TWA: 1900 mg/m <sup>3</sup> 8 hours
TWA: 1000 ppm 8 hours.	

Bornan-2-one (camphor)	ACGIH TLV (United States, 4/2014).
	TWA: 2 ppm 8 hours
	TWA: 12 mg/m <sup>3</sup> 8 hours
	STEL: 3 ppm 15 minutes
	STEL: 19 mg/m <sup>3</sup> 15 minutes
	NIOSH REL (United States, 10/2013).
	TWA: 2 mg/m <sup>3</sup> 10 hours
	OSHA PEL (United States, 2/2013).
	TWA: 2 mg/m <sup>3</sup> 8 hours

**Appropriate engineering controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment

**Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

**Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles

### Skin protection

**Hand protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated

**Body protection:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves

**Other skin protection:** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product

**Respiratory protection:** Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator

### Section 9. Physical and Chemical Properties

**Appearance:** Liquid

**Odor:** Ether. Alcohol.

**Odor threshold:** Not available

**pH:** Not available.

**Melting point:** Not available

**Boiling point:** 36.11°C (97°F)

**Flash point (Closed Cup):** -45°C (-49°F) [Tagliabue.]

**Evaporation rate:** <1 (Ether = 1)

**Flammability (solid, gas):** Not available



**Lower and upper explosive (flammable) limits**

**Lower:** 0.6%

**Upper:** 36%

**Vapor pressure:** Not available.

**Vapor density:** > 1 [Air = 1]

**Relative density:** 0.7671

**Solubility:** Slightly soluble.

**Partition coefficient (n-octanol/water):** Not available.

**Auto-ignition temperature:** Not available

**Decomposition temperature:** Not available

**Viscosity:** Not available

**Volatility:** Not available

**VOC content:** 88.6 % (w/w)

Section 10. Stability and Reactivity

**Reactivity:** No specific test data related to reactivity available for this product or its ingredients

**Chemical stability:** The product is stable

**Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur

**Conditions to avoid:** Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

**Incompatible materials:** Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced

Section 11. Toxicological Information

**Information on toxicological effects**

**Acute toxicity**

Component	Result	Species	Dose	Exposure
Diethyl ether	LD50 Oral	Rat	1211 mg/kg	-
Ethyl Alcohol	LC50 Inhalation Vapor	Rat	124700 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	7 g/kg	-



### Irritation/Corrosion

Component	Result	Species	Score	Exposure	Observation
Diethyl ether	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Severe irritant	Guinea pig	-	24 hours 50 mg	-
	Skin - Mild irritant	Rabbit	-	360 mg	-
Ethyl Alcohol	Eyes - Moderate irritant	Rabbit	-	100 µL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Moderate irritant	Rabbit	-	0.06 minutes 100 mg	-
	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	400 mg	-

**Sensitization:** There is no data available.

### Carcinogenicity Classification

Component	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Diethyl ether	-	3	-	-	-	-
Bornan-2-one (camphor)	-	-	-	A4	-	-

### Specific target organ toxicity (single exposure)

Component	Category	Route of exposure	Target organs
Diethyl ether	Category 3	Not applicable.	Narcotic effects
Ethyl Alcohol	Category 3	Not applicable.	Narcotic effects
Bornan-2-one (camphor)	Category 2	Inhalation	lungs

**Specific target organ toxicity (repeated exposure):** There is no data available

**Aspiration hazard:** There is no data available

**Information on the likely routes of exposure:** Dermal contact. Eye contact. Inhalation. Ingestion

### Potential acute health effects

**Eye contact:** Causes serious eye irritation

**Inhalation:** Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.



**Skin contact:** No known significant effects or critical hazards.

**Ingestion:** Harmful if swallowed. Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach

**Symptoms related to the physical, chemical, and toxicological characteristics**

**Eye contact:** Adverse symptoms may include pain or irritation, watering, redness.

**Inhalation:** Adverse symptoms may include nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness.

**Skin contact:** No known significant effects or critical hazards

**Ingestion:** No known significant effects or critical hazards.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects:** No known significant effects or critical hazards

**Potential delayed effects:** No known significant effects or critical hazards

**Long term exposure**

**Potential immediate effects:** No known significant effects or critical hazards

**Potential delayed effects:** No known significant effects or critical hazards.

**Potential chronic health effects**

**General:** No known significant effects or critical hazards.

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:** No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

Route	ATE value
Oral	1693.6 mg/kg
Inhalation (dusts and mists)	75 mg/L

Section 12. Ecological Information

**Toxicity**

Component	Result	Species	Exposure
Diethyl ether	Acute LC50 2560000 µg/L Fresh water	Fish - Pimephales promelas	96 hours
Ethyl Alcohol	Acute EC50 17.921 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/L Marine water	Crustaceans - Artemia franchiscana - Larvae	48 hours
	Acute LC50 42000 µg/L Fresh water	Fish - Oncorhynchus mykiss	4 days
	Chronic NOEC 4.995 mg/L Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.375 µl/L Fresh water	Fish - Gambusia holbrooki - Larvae	12 weeks

**Persistence and degradability:** There is no data available.

**Bioaccumulative potential**

Component	LogP <sub>ow</sub>	BCF	Potential
Diethyl ether	0.89	5.37	Low
Ethyl Alcohol	-0.32	-	Low
Bornan-2-one (camphor)	2.38	-	low

**Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>):** Not available.

**Other adverse effects:** No known significant effects or critical hazards

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT Classification**

**UN number:** UN2059



**UN proper shipping name:** Nitrocellulose solution, flammable RQ (Diethyl ether)  
**Transport hazard class:** 3  
**Packing Group:** II  
**Environmental hazards:** No

**IMDG**

**UN number:** UN2059  
**UN proper shipping name:** Nitrocellulose solution, flammable  
**Transport hazard class:** 3  
**Packing Group:** II  
**Environmental hazards:** No

**IATA**

**UN number:** UN2059  
**UN proper shipping name:** Nitrocellulose solution, flammable  
**Transport hazard class:** 3  
**Packing Group:** II  
**Environmental hazards:** No

**Additional information**

**Reportable quantity:** 150.02 lbs / 68.107 kg [23.454 gal / 88.785 L]  
Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**AERG:** 127

**DOT-RQ Details**

**Diethyl ether:** 100 lbs / 45.4 kg [16.892 gal / 63.944 L]

**Special precautions for user:** Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not available

Section 15. Regulatory Information

**U.S. Federal regulations**

**TSCA 8(a) PAIR:** Diethyl ether; Bornan-2-one (camphor)

**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

**United States inventory (TSCA 8b):** All components are listed or exempted

**Clean Air Act (CAA) 112 regulated flammable substances:** Diethyl ether

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs):** Not listed



**Clean Air Act Section 602 Class I Substances:** Not listed  
**Clean Air Act Section 602 Class II Substances:** Not listed

**DEA List I Chemicals (Precursor Chemicals):** Not listed  
**DEA List II Chemicals (Essential Chemicals):** Listed

**SARA 302/304**

**Composition/information on ingredients:** No products were found.

**SARA 304 RQ:** Not applicable

**SARA 311/312**

**Classification:** Fire hazard, Immediate (acute) health hazard

**Composition/information on ingredients**

Component	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Diethyl ether	60 – 100	Yes	No	No	Yes	No
Ethyl Alcohol	10 – 30	Yes	No	No	Yes	No
Bornan-2-one (camphor)	1 – 5	Yes	No	No	Yes	No

**State regulations**

**Massachusetts:** The following components are listed: Diethyl ether; Ethyl Alcohol; Nitrocellulose; Bornan-2-one (camphor)

**New York:** The following components are listed: Diethyl ether

**New Jersey:** The following components are listed: Diethyl ether; Ethyl Alcohol; Nitrocellulose; Bornan-2-one (camphor)

**Pennsylvania:** The following components are listed: Diethyl ether; Ethyl Alcohol; Nitrocellulose; Bornan-2-one (camphor)

**California Prop. 65:** No products were found.

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 10/19/2015