



SAFETY DATA SHEET

1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: **COLLODION FLEXIBLE**

Product Code: C-7001

Product use: For laboratory or industrial use only

Supplier: Cochimbec Inc.
8561 chemin Dalton
Town of Mount-Royal, Quebec
H4T 1V5 CANADA

Telephone: 514-990-1935
Emergency Telephone: (CANUTEC): 613-996-6666

2 – HAZARDS IDENTIFICATION

GHS Classification: 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 (Category 3) Narcotic effects



Signal word:		Danger
Hazard statement:	H225	Highly flammable liquid and vapour.
	H302	Harmful if swallowed.
	H319	Causes serious eye irritation.
	H336	May cause drowsiness or dizziness.
	H371	May cause damage to organs
Precautionary statement:	P101	If medical advice is needed, have product container or label at hand.
	P102	Keep out of reach of children.
	P103	Read label before use.
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P233	Keep container tightly closed.
	P235	Keep cool.

	P241	Use explosion-proof [electrical/ventilation/lighting/...] equipment.
	P242	Use non-sparking tools.
	P243	Take action to prevent static discharges.
	P260	Do not breathe dust / fume / gas / mist / vapours / spray.
	P264	Wash skin thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER / Doctor if unwell you feel. Rinse mouth.
	P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
	P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER / Doctor if unwell you feel.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P308 + P311	IF exposed or concerned: Call a POISON CENTER / Doctor.
	P312	Call a POISON CENTER / Doctor if unwell you feel.
	P337 + P313	If eye irritation persists. Get medical advice/attention.
	P403	Store in a well-ventilated place.
	P405	Store locked up.
	P501	Dispose of contents / container in accordance with all local, regional, national and international regulations.
Other hazards:		None known.

3 – COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms: Collodion Flex

INGREDIENT	Concentration	CAS No.	EC No.	Index No.
Diethyl Ether	60-100 %	60-29-7		
Ethyl Alcohol	10-30 %	64-17-5		
Bornan-2-one (camphor)	1-5 %	76-22-2		

4 – FIRST AID MEASURES

Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell or if victim is unconscious. If victim is not breathing, give artificial respiration and call for medical assistance. 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.
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Skin contact:	Wash with plenty of soap and water. Continue rinsing for 20 minutes. Take off contaminated clothing and wash before reuse. Call a POISON CENTER or doctor if you feel unwell. Consult a physician if irritation persists.
Eye contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Remove contact lenses if present and easy to do, continue rinsing for at least 20 minutes. If eye irritation persists get medical advice/attention.
Ingestion:	Wash mouth with water. Give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.
Most important symptoms / effects	May cause central nervous system depression. May cause drowsiness and dizziness. Exposure to decomposition products may cause health hazard. Serious effects may be delayed following exposure. Causes eye irritation. Causes irritation to mouth, throat and stomach.

5 – FIRE-FIGHTING MEASURES

Extinguishing media:	Water spray, alcohol resistant foam, dry chemical, carbon dioxide. Do not use water jet or water based fire extinguishers.
Combustion Exposure Hazards:	Hazardous decomposition products formed under fire conditions: Carbon Monoxide, Carbon Dioxide and Nitrogen Oxides.
Fire-Fighting equipment and precaution:	Wear a positive-pressure self-contained breathing with a full face-piece apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.
Sensitivity to mechanical impact:	Not sensitive.
Sensitivity to static discharge:	N/D

NFPA	Risk	HEALTH	FLAMMABILITY	REACTIVITY	HAZARDS
0=Low	4=High	2	4	1	

6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Use personal protective equipment. Use in a properly ventilated area. Avoid inhaling vapour or mist. Use explosion proof equipment. Keep away from sources of ignition. Evacuate people to safe areas. Avoid accumulation of vapours that can form explosive concentrations. Wash hands after use.
Environmental Precautions:	Prevent further leakage or spillage using personal protection. Avoid product entering into drains.
Method & Material for containment and cleaning up:	Ensure proper ventilation. Use personal protective equipment. Contain spillage. Prevent further leakage if possible and safe to do so. Use spark proof equipment. Remove all source of ignition. Soak up with inert absorbent material. Keep in suitable closed container for disposal. Product may be wet-brushed and placed in a container for disposal according to local, state and federal regulations. Dispose according to local regulations. For large spills, evacuate area and limit access. Prevent product entering into drains and confined areas.

7 – HANDLING AND STORAGE

Precautions for safe handling:	Wear personal protective equipment. Do not breathe dust / fume / gas / mist / vapours / spray. Keep away from open flame, hot surfaces and sources of ignition. Use explosion proof equipment. Take precautionary measures against static discharges. Do not get on skin, eyes and clothing. Ground any metal equipment.
Conditions for Safe Storage:	Store in a cool, dry place away from incompatibles, heat and possible source of ignition. Keep container tightly closed in a well-ventilated area.

8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS-No	VALUE	CONTROL PARAMETERS	BASIS
Diethyl Ether	60-29-7	TWA	400 ppm 8 hrs 1210 mg/m ³ 8 hrs	USA. ACGIH Threshold Limits Values (TLV)
		STEL	500 ppm 15 min. 1520 mg/m ³ 15 min	USA. ACGIH Threshold Limits Values (TLV)
		TWA	400 ppm 8 hrs 1200 mg/m ³ 8 hrs	USA. OSHA – PEL
Ethyl Alcohol	64-17-5	STEL	1000 ppm 15 min	USA. ACGIH Threshold Limits Values (TLV)
		TWA	1900 ppm 10 hrs	NIOSH - REL
		TWA	1000 ppm 8 hrs 1900 mg/m ³ 8 hrs	USA. OSHA – PEL
Camphor	76-22-2	TWA	2 ppm 8 hrs 12 mg/m ³ 8 hrs	USA. ACGIH Threshold Limits Values (TLV)
		STEL	3 ppm 15 min 19 mg/m ³ 15 min	USA. ACGIH Threshold Limits Values (TLV)
		TWA	2 mg/m ³ 10 hrs	NIOSH - REL
		TWA	2 mg/m ³ 8 hrs	USA. OSHA – PEL



Eye Protection:	Use a full face shield if splashing is possible.
Hand Protection:	Use chemical resistant gloves. Gloves should be resistant to product. Refer to glove manufacturer for appropriate type and glove thickness.
Body Protection:	Use impervious apron or body suit. The protective clothing must be flame retardant and antistatic.
Respiratory Protection:	Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face air respirator. Use NIOSH (US) or CEN (EU) approved respirators.
Engineering Controls:	Use antispark equipment for exhaust or fume hood. Ensure adequate ventilation.

9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid.	Auto ignition temperature:	N/D
Color:	Colourless	Upper Explosion Limit:	36 % by Volume
Odour:	Alcohol-like	Lower Explosion Limit:	0.6 % by Volume
Odour threshold::	N/D	Vapour pressure:	N/D
pH:	N/D	Vapour density: (air = 1)	N/D

Melting point:	N/D	Relative density	0.767
Boiling point:	36.11°C @ 760 mm Hg	Water solubility:	Slightly soluble
Boiling range:	N/D	Decomposition temperature:	N/D
Density	0.767 g/mL @ 25°C	Refractive Index:	N/D
Flash point:	-45 °C Closed cup	Viscosity:	N/D
Evaporation rate: (n-Butyl Acetate = 1)	<1	Partition coefficient: n-octanol / water	N/D

10 – STABILITY AND REACTIVITY

Chemical stability:	Stable under recommended storage conditions.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	Heat, flames and sparks. Do not pressurise, cut, weld, braze, solder, drill, grind or expose container to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
Incompatible materials:	Oxidizing agents, acids and alkalis.
Hazardous decomposition products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products formed under fire conditions: Carbon Oxides and Nitrogen oxides.

11 – TOXICOLOGICAL INFORMATION

COMPONENTS	LD ₅₀ ORAL	LD ₅₀ DERMAL	LC ₅₀ INHALATION
Dithyl Ether	1,211 mg/kg (rat)		
Ethyl Alcohol	7,000 mg/kg (rat)		124,700 mg/m ³ 4 hrs (rat)
Skin Corrosion / irritation	Rabbit – Moderate irritation		
Serious eye damage / eye irritation	Rabbit – Moderate irritation		
Respiratory or skin sensitisation	No data available.		
Germ cell Mutagenicity	No data available.		
Carcinogenicity	This product contains a class 3 compound listed by IARC and a class A4 compound listed by ACGIH classified as a carcinogen.		
Reproductive toxicity	No data available		
Teratogenicity	No data available		
Aspiration hazard	No data available		
Symptoms of Exposure	To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. Can cause central nervous system depression, nausea, headache, vomiting, narcosis, and drowsiness.		
Synergistic effects	No data available		
Addition information	RTECS: NT8050000		

12 – ECOLOGICAL INFORMATION

COMPONENTS	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates	Toxicity to Algae
Diethyl Ether	LC ₅₀ – Pimephales promelas – 2,560 mg/l – 96 h.		
Ethyl Alcohol		EC ₅₀ – Daphnia Magna (Water flea) – 2 mg/l – 48 h. LC ₅₀ – Crustaceans – Artemia Franchiscana Larvae – 25.5 mg/l – 48 h. LC ₅₀ – Oncorhynchus Mykiss – 42 mg/l – 4 days	EC ₅₀ Ulva pertusa (algae) – 17.921 mg/L – 96 h
Persistence and degradability	No data available		
Bioaccumulative potential	Low bioaccumulation potential.		
Mobility in soil	Diethyl Ether: LogP _{ow} 0.89, Ethyl Alcohol: LogP _{ow} -0.32, Camphor: LogP _{ow} 2.38		
PBT and vPvB assessment	No data available		
Other adverse effects	No data available		

13 – DISPOSAL CONSIDERATIONS

Product	Exert extra care in igniting as this product is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Federal and local laws governing disposal of material can differ. Ensure proper disposal compliance with authorities before disposal.
Contaminated clothing	Let dry, then wash before reusing clothes.
Contaminated packaging	Dispose as unused product above. Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14 – TRANSPORT INFORMATION



	TDG	IMDG	IATA
Shipping Name:	Nitrocellulose solution, flammable (Diethyl Ether)	Nitrocellulose solution, flammable	Nitrocellulose solution, flammable
UN-number:	UN2059	UN2059	UN2059
Class & Subclass:	3	3	3
Packing Group:	II	II	II
Limited Quantity:	1 L		

ERAP Index:	NA	NA	NA
ERG #:	NA	NA	NA
Inhalation Toxicity:	No	No	No
Marine Pollutant	No	No	No

15 – REGULATORY INFORMATION

US Regulations	TSCA 8(a) PAIR: Diethyl Ether; Bornan-2-one TSCA 8(a) CDR Exempt/Partial exemption; not determined TSCA 8(b) All components are listed or exempted
Canada Classification	Canada WHMIS: Class B-2: Flammable liquids.
International	No information

16 – OTHER INFORMATION

Information on the preparation of SDS:	Prepared by Cochimbec Inc. Safety Personnel August 24, 2018 Revision 0 I.C. 1,15
Abbreviations:	ACGIH = American Conference of Governmental Industrial Hygienists ASTM = American Society for Testing and Materials BCF = Bioconcentration Factor CAS = Chemical Abstract Services CCOHS = Canadian Center for Occupational Health & Safety CEN (EU) = Comité Européen de Normalisation CERCLA = Comprehensive Environmental Response Compensation & Liability Act CFR = Code of Federal Regulations CMR = Carcinogenic-mutagenic-toxic for reproduction CPR = Controlled Products Regulations DIN = German Institute for Standardisation DOT = Department of Transport EC ₅₀ = Half maximal effect concentration EINECS = European Inventory of Existing Commercial Chemical Substances GHS = Global Harmonization System GLP = Good Laboratory practice GMO = Genetic Modified Organism IARC = International Agency for research on Cancer IATA = International Air Transport Association ISO = International Organisation for Standardisation IDLH = Immediate danger to life and health IMDG = International Maritime Dangerous Goods LC ₅₀ = Lethal concentration causing 50% death LD ₅₀ = Lethal dose causing 50% death LOAEL = Lowest Observed Adverse Effect Level

	<p>LOEL = Lowest Observed Effect Level</p> <p>N/A = Not Applicable</p> <p>N/D = No Data</p> <p>N/E = Not Established</p> <p>NFPA = National Fire Protection Association</p> <p>NIOSH = National Institute for Occupational Safety & Health</p> <p>NTP = National Toxicology Program</p> <p>OECD = Organisation for Economic Co-operation & Development</p> <p>OEL = Occupational exposure limit</p> <p>OHSC = Occupational health & safety council (committee)</p> <p>OSHA = Occupational Safety & Health Administration</p> <p>PBT = Persistent, Bioaccumulation, Toxic</p> <p>PEL = Permissible Exposure Limit</p> <p>RCRA = Resource Conservation & Recovery Act</p> <p>RTECS = Registry of Toxic Effects of Chemical Substances</p> <p>SARA = Species at Risk Act</p> <p>STEL = Short term exposure limit</p> <p>STEV = Short term exposure value</p> <p>STOT = Specific Target Organ Toxicity</p> <p>TDG = Transport of Dangerous Goods</p> <p>TLV = Threshold limit value</p> <p>TMD = Transport de Matières Dangereuses</p> <p>TSCA = Toxic Substance Control Act</p> <p>TWA = Time weighted Average</p> <p>TWAEV = Time weighted average exposure value</p> <p>UN = United Nations</p> <p>vPvB = very Persistent and very Bioaccumulative</p> <p>VOC = Volatile Organic Compounds</p> <p>WEEL = Workplace Environment Exposure Limit</p> <p>WHO = World Health Organisation</p> <p>WHMIS = Workplace Hazardous Material Information System</p> <p>W/V = Weight / Volume</p> <p>W/W = Weight / Weight</p>
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End of Safety Data Sheet