

Humco Holding Group, Inc.
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800-662-3435

Item# 0395-0649
Collodion Flexible

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SECTION 1 PRODUCT IDENTIFICATION

Product: Collodion Flexible **Synonyms:** None **CAS #:** NA to mixtures

Molecular Weight: NA to mixtures. **Chemical Formula:** NA to mixtures.

Emergency Telephone Numbers:

Humco Holding Group, Inc. 800-662-3435
Chemtrec 800-424-9300

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS No.	PERCENT	HAZARDOUS
Nitrocellulose	9004-70-0		Yes
Ethyl Alcohol	64-17-5		Yes
Diethyl Ether	60-29-7	60 – 70%	Yes
Camphor	76-22-2		Yes
Castor Oil	8001-79-4		Yes
Actual concentrations proprietary			

SECTION 3 HAZARDOUS IDENTIFICATION

Emergency Overview

Danger! Extremely flammable liquid and vapor. Harmful if swallowed, inhaled or absorbed through skin. Affects the central nervous system. Causes irritation to skin, eyes and respiratory tract. May affect liver, blood, reproductive system.

	Codes	KEY	
Health	2		4 = Severe
Flammability	4		3 = Serious
Reactivity	1		2 = Moderate
Contact	0		1 = Slight
			0 = None

NFPA Rating

	Codes	KEY	
Health	1		4 = Severe
Flammability	4		3 = Serious
Reactivity	0		2 = Moderate
			1 = Slight
			0 = None

Lab Protective Equipment: goggles, lab coat, vent hood, proper gloves, Class B extinguisher.

Storage Color Code: Red (flammable)

Collodion Flexible

Inhalation: Vapors have anesthetic properties. Early symptoms of exposure may include irritation of the nose and throat, followed by dizziness and drowsiness. Continued exposure may lead to unconsciousness, respiratory failure, and death.

Skin & eye Contact Health Risks & Symptoms of Exposure: Liquid may cause eyes to become irritated, prolonged exposure to skin may cause drying and cracking.

Skin Absorption Health Risks & Symptoms of Exposure: Prolonged absorption of material thru skin could cause damage to blood, kidneys, and nervous system.

Ingestion: Harmful if swallowed. May cause headache, stomach pains, and dizziness. Acts as a depressant of the central nervous system and can produce symptoms similar to those of inhalation exposure. Irritating to the mucous membranes. Ingestion of 1 or 2 ounces may be fatal. Because of volatility the stomach becomes distended, which may cause belching. Other symptoms can include vomiting, unconsciousness, and coma.

Skin Contact: Irritating to the skin and mucous membranes by drying effect. Can cause dermatitis on prolonged exposure. May be absorbed through the skin.

Eye Contact: Vapors may cause irritation. Splashes or high vapor concentrations may produce severe irritation or eye damage.

Chronic Exposure: Repeated exposures may be habit forming. Prolonged exposures may result in headache, drowsiness, excitation, and psychic disturbances. The ethyl alcohol component, in repeated high exposures, may cause damage to liver, blood and reproductive system. Teratogenic effects are possible for ether and ethyl alcohol.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems or impaired liver, kidney or respiratory function may be more susceptible to the effects of this substance. Alcoholic beverage consumption can enhance the toxic effects of this substance.

SECTION 4

FIRST AID MEASURES

Inhalation: Remove victim to fresh air. If not breathing, give artificial respiration. Give oxygen if breathing is difficult get professional medical attention immediately.

Ingestion: Do NOT induce vomiting. Give large amounts of water. never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact: Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush with plenty of fresh water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Collodion Flexible

SECTION 5

FIRE FIGHTING MEASURES

Flash Point: < -32°C (<-26°F)

Autoignition Temperature: 180 – 190°C (356 – 374°F)

Flammable Limits in Air % by Volume: Lower – 1.9% Upper - 36.0%

Extremely flammable liquid and vapor! Vapor may cause flash fire, Very dangerous when exposed to heat or flame. Listed autoignition temperature and % limits are for Ether.

Explosion: Above the flash point, explosive vapor-air mixtures may be formed. Sealed containers may rupture when heated. May form explosive peroxides on long standing or after exposure to air or light. May explode when brought in contact with nitric acid. Sensitive to mechanical impact and to static discharge.

Extinguishing Media: Foam, CO₂ and dry chemical. Treat as a flammable gas in a fire situation. Water spray may be used to keep fire exposed containers cool.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. This highly flammable liquid must be kept from sparks, open flame, hot surfaces, and all sources of heat and ignition. Poisonous gases are produced in fire. Vapors are heavier than air. Liquid floats on water. Both vapor and liquid may travel to source of ignition and flash back.

SECTION 6

ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

SECTION 7

HANDLING & STORAGE

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product

Collodion Flexible

SECTION 8

CONTROL MEASURES

Airborne Exposure Limits

OSHA Permissible Exposure Limit (PEL): 400 ppm (TWA) for ether
1000 ppm(TWA) for ethyl alcohol
2 mg/m³ (TWA) for camphor

ACGIH Threshold Limit Value (TLV): 400 ppm (TWA), 500 ppm (STEL) for ether
1000 ppm (TWA), A4 for ethyl alcohol
2 ppm (TWA), 3 ppm (STEL), for camphor, A4 Not classifiable as a human carcinogen.

Ventilation: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, a half-face organic vapor respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respiratory supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **Warning:** Air purifying respirator do not protect workers in oxygen-deficient atmospheres. An organic vapor respirator is predicted to have a short service life (less than 30 minutes at concentration of ten times the TLV/PEL) when used with this material.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 9

PHYSICAL & CHEMIAL PROPERTIES

Appearance: Colorless to slightly yellow, syrupy liquid.

Odor: Ether-camphor odor.

Specific Gravity (H₂O=1): 0.78

Solubility in Water: Slight

pH: No information found.

% Volatiles by Volume @ 21°C (70°F): ca. 95

Boiling Point: 34.6°C (95°F) (Ether)

Melting Point: -123°C (-189°F) (Ether)

Vapor Density (Air = 1): 2.6 (Ether)

Vapor Pressure (mm Hg): 440 @ 20°C (68°F) (Ether)

Evaporation Rate (BuAc = 1): 37.5

Collodion Flexible

SECTION 10

STABILITY & REACTIVITY

Stability: Heat, light, and long standing contribute to instability. Reacts with air to form explosive peroxides. Do not allow the solvents to evaporate from the product. The dry material is shock sensitive.

Hazardous Decomposition Products: Burning may produce toxic fumes of cyanide, carbon dioxide, carbon monoxide and oxides of nitrogen.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Heat, flame, ignition sources, shock, air, sunlight and incompatibles.

Incompatibility (materials to avoid): Acetyl peroxide, liquid air, bromoazide, chlorine, strong oxidizers, acids, bases & amines.

SECTION 11

TOXICOLGICAL INFORMATION

Toxicological Data:

Ether: Oral rat LD50: 1215 mg/kg; inhalation rat LC50: 32000 ppm/4H; investigated as a mutagen, tumorigen.

Ethyl alcohol: oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20000 ppm/10 H; investigated as a tumorigen, mutagen, reproductive effector.

Nitrocellulose: oral rat LD50: > 5gm/kg.

Camphor: oral mouse LD50: 1210 mg/kg; investigated as a mutagen.

Castor Oil: Investigated as a tumorigen.

Reproductive Toxicity: See Chronic Heath Hazards

Cancer Lists NTP Carcinogen

<u>Ingredient</u>	<u>Known</u>	<u>Anticipated</u>	<u>IARC Category</u>
Nitrocellulose (9004-70-0)	No	No	None
Diethyl Ether (60-29-7)	No	No	None
Ethyl Alcohol (64-17-5)	No	No	None
Camphor (76-22-2)	No	No	None
Castor Oil (8001-79-4)	No	No	None

Collodion Flexible

SECTION 12

ECOLOGICAL INFORMATION

Environmental Fate:

For Ether: When released into the soil, this material is not expected to biodegrade. When released into the soil, this material is expected to leach into ground water. When released into the soil, this material is expected to quickly evaporate. When released into water, this material is not expected to biodegrade. . When released into the water, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life of less than 1 day. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produce hydroxyl radicals. When release into the air, this material is not expected to be degraded by photolysis. When released into the air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity:

For Ether: This material is not expected to be toxic to aquatic life. The LC50/96 hour values for fish are over 100 mg/l.

SECTION 13

DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulation may differ from federal disposal regulation. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14

TRANSPORT INFORMATION

Domestic (Land, D.O.T.)

Proper Shipping Name: Flammable Liquids, N.O.S. (Pyroxylin, Diethyl Ether)

Hazard Class: 3

UN/NA: UN1993

Packing Group: I

Information reported for product/size: 300 lb.

International (Water, I.M.O.)

Proper Shipping Name: Flammable Liquids, N.O.S. (Pyroxylin, Diethyl Ether)

Hazard Class: 3.1

UN/NA: UN1993

Packing Group: I

Information reported for product/size: 300 lb.

Collodion Flexible

SECTION 15

REGULATORY INFORMATION

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Nitrocellulose (9004-70-0)	Yes	No	Yes	Yes
Diethyl Ether (60-29-7)	Yes	Yes	Yes	Yes
Ethyl Alcohol (64-17-5)	Yes	Yes	Yes	Yes
Camphor (76-22-2)	Yes	Yes	Yes	Yes
Castor Oil (8001-79-4)	Yes	Yes	No	Yes

Chemical Inventory Status – Part 2

Ingredient	Canada			Phil.
	Korea	DSL	NDSL	
Nitrocellulose (9004-70-0)	Yes	Yes	No	Yes
Diethyl Ether (60-29-7)	Yes	Yes	No	Yes
Ethyl Alcohol (64-17-5)	Yes	Yes	No	Yes
Camphor (76-22-2)	Yes	Yes	No	Yes
Castor Oil (8001-79-4)	Yes	Yes	No	Yes

Federal, State & International Regulations – Part 1

Ingredient	SARA 302		SARA 313	
	RQ	TPO	List	Chemical Catg.
Nitrocellulose (9004-70-0)	No	No	No	No
Diethyl Ether (60-29-7)	No	No	No	No
Ethyl Alcohol (64-17-5)	No	No	No	No
Camphor (76-22-2)	No	No	No	No
Castor Oil (8001-79-4)	No	No	No	No

Federal, State & International Regulations – Part 2

Ingredient	CERCLA	RCRA	TSCA
		261.33	8 (d)
Nitrocellulose (9004-70-0)	No	No	No
Diethyl Ether (60-29-7)	100	U117	Yes
Ethyl Alcohol (64-17-5)	No	No	No
Camphor (76-22-2)	No	No	Yes
Castor Oil (8001-79-4)	No	No	No

Chemical Weapons Convention: No **TSCA 12 (b):** No **CDTA:** No

SARA 311/312: Acute: Yes **Chronic:** Yes **Fire:** Yes **Pressure:** No

Reactivity: Yes (Mixture/Liquid)

Australian Hazchem Code: No information found.

Poison Schedule: No information found.

Collodion Flexible

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16

OTHER INFORMATION

Label Hazard Warning: Danger! Extremely flammable liquid and vapor. Harmful if swallowed, inhaled or absorbed through skin. Affects central nervous system. Causes irritation to skin, eyes and respiratory tract. May affect liver, blood, reproductive system.

Label Precautions: May form explosive peroxides. Keep away from heat, sparks and flame. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Store at a temperature not exceeding 30°C (86°F). Do not open unless contents are at room temperature (72°F) or below for at least 24 hours.

Label First Aid: If swallowed Do NOT induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. Give oxygen if breathing is difficult. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Contaminated clothing and shoes should be removed and place in closed containers for storage until they can be discarded or cleaned. In all cases, get medical attention.

Product Use: Laboratory Reagent.