OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Reviewed on 09/25/18



Issue date 06/11/15

* 1 Identification

- · Product identifier
- · Trade name: Flexible Collodion
- · Relevant identified uses of the substance or mixture and uses advised against

No further relevant information

- · Product description Flexible collodion, USP
- · Details of the supplier of the safety data sheet
- Manufacturer/Supplier:

Dermatologic Lab & Supply, Inc.

608 13th Ave.

Council Bluffs, IA USA 51501-6401

Voice: (800) 831-6273 or (712) 323-3269 Fax: (800) 320-9612 or (712) 323-1156

www.delasco.com

• Emergency telephone number: Chemtrec 800-424-9300

· Classification of the substance or mixture



Flam. Liq. 1 H224 Extremely flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 3H301 Toxic if swallowed.



Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H320 Causes eye irritation.

Eye Irrit. 2B · Label elements

- · **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms







GHS02 GHS06 GHS07

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· Signal word Danger

· Hazard-determining components of labeling:

Ether bornan-2one Ethyl alcohol

· Hazard statements

Extremely flammable liquid and vapor.

Toxic if swallowed.

Causes skin and eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

If swallowed: Immediately call a poison center/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a poison center/doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO2, powder or water spray.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool. Dispose of contents/container in accordance with local/regional/national/international regulations.

· Unknown acute toxicity:

5 percent of the mixture consists of ingredient(s) of unknown toxicity.

- · Classification system: NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- · NFPA ratings (scale 0 4)

Health = 2

Fire = 4

Reactivity = 0

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· HMIS-ratings (scale 0 - 4)

Health = 2 Fire = 4 Reactivity = 0



· Hazard(s) not otherwise classified (HNOC): None known

3 Composition/information on ingredients

· **Description:** Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

· Dangerous Compone	ents:	
CAS: 60-29-7 RTECS: KI 5775000	Ether ♦ Flam. Liq. 1, H224; ♦ Acute Tox. 4, H302; STOT SE 3, H336	60-90%
CAS: 64-17-5 RTECS: KQ 6300000	Ethyl alcohol Flam. Liq. 2, H225; Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	15-35%
CAS: 76-22-2	bornan-2-one ♦ Flam. Sol. 2, H228; ♦ Acute Tox. 2, H300	2-12%
CAS: 9004-70-0	cellulose nitrate ♦ Expl. 1.1, H201; ♦ Flam. Sol. 1, H228	2-12%

* 4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product. In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist. In case of unconsciousness, place patient securely on side position for transportation.

• After skin contact:

Immediately wash with water and soap and rinse thoroughly. If skin irritation occurs, consult a doctor. • *After eye contact:* Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor.

· After swallowing:

Do not induce vomiting without medical advice.

Consume large amounts of water. If symptoms persist, consult a physician.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed: No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

* 5 Fire-fighting measures

- Extinguishing media
- · **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- · Special hazards arising from the substance or mixture

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This product contains Cellulose Nitrate which is an oxidizing and potentially explosive substance that will fuel any fires. Use extreme caution.

- · Advice for firefighters Use water spray to cool unopened containers.
- · Protective equipment:

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

* 6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Avoid contact with skin, eyes and clothing.

Keep people at a distance and stay upwind.

Keep away from ignition sources Do not inhale gases / fumes

/aerosols Treat any fumes as toxic. Wear protective

equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water. Do not allow to enter

sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation. Dispose of the collected

material according to regulations.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

* 7 Handling and storage

- Handling:
- · Precautions for safe handling

Keep away from heat and direct sunlight.

Avoid contact with skin, eyes and clothing

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Do not spray on a naked flame or any incandescent material.

Do not cut, grind or weld on container that contains or contained product.

Keep ignition sources away - Do not smoke.

Protect from heat.

Protect against electrostatic charges.

· Conditions for safe storage, including any incompatibilities

Store away from strong acids, strong oxidizing agents, strong reducing agents, chlorinated solvents, Alkali metals and Ammonia.

- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions:

Keep receptacle tightly sealed.

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Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· Specific end use(s) No further relevant information available.

* 8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see section 7.

· Control parameters

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

· Components with occupational exposure limits:

60-29-7 Ether

PEL Long-term value: 1200 mg/m³, 400 ppm TLV Short-term value: 1520 mg/m³, 500 ppm Long-

term value: 1210 mg/m³, 400 ppm

64-17-5 Ethyl alcohol

PEL Long-term value: 1900 mg/m³, 1000 ppm
REL Long-term value: 1900 mg/m³, 1000 ppm
TLV Short-term value: 1880 mg/m³, 1000 ppm
Upper Respiratory Tract irritation

76-22-2 bornan-2-one

PEL Long-term value: 2 mg/m³ REL Long-term value: 2 mg/m³

TLV | Short-term value: 19 mg/m³, 3 ppm Long-

term value: 12 mg/m³, 2 ppm

- · Additional information: The lists that were valid during the creation of this SDS were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:



Suitable respiratory protective device recommended.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Select glove material based on penetration times, rates of diffusion and degradation.

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Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

Eye protection:



Tightly sealed goggles

Body protection:



Protective work clothing

* 9 Physical and chemical properties

· Information on basic physical and chemical properties

General Information Appearance:

Form: Liquid

Color: Clear or opalescent, colorless to slightly yellow

· Odor: Ether

Odor threshold: Not determined.pH-value: Not determined.

· Change in condition

Melting point/Melting range: --

Boiling point/Boiling range: 35 °C (95 °F)

· Flash point: -40 °C (-40 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 170 °C (338 °F)

· Decomposition temperature: Not determined.

Auto igniting: Product is not self-igniting.Danger of explosion: May form explosive peroxides.

· Explosion limits:

 Lower:
 1.7 Vol %

 Upper:
 36.0 Vol %

· Vapor pressure @ 20 °C (68 °F): 587 hPa (440 mm Hg)

· Density:

Relative densityNot determined.Vapor densityNot determined.Evaporation rateNot determined.

· Solubility in / Miscibility with

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Water: Fully miscible.

• Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined. **Kinematic:** Not determined.

· Solvent content:

 Organic solvents:
 85.0 %

 Water:
 5.0 %

 VOC content:
 85.0 %

 Solids content:
 10.0 %

· Other information No further relevant information available.

* 10 Stability and reactivity

- · *Reactivity* No further relevant information available.
- · Chemical stability Stable under normal conditions.
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid Heat, flame and ignition sources.
- · Incompatible materials:

Strong acids, strong oxidizing agents, strong reducing agents, chlorinated solvents, Alkali metals and Ammonia.

· Hazardous decomposition products: Carbon Oxides and Nitrogen Oxides (NOx).

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50 values that are relevant for classification: 60-29-7 Ether				
Inhalative	LC50/4 h	73000 mg/l (rat)		
64-17-5 Et	hyl alcohol			
Oral	LD50	7060 mg/kg (rat)		
		Remarks: Lungs, Thorax, or Respiration: Other changes.		
		Carcinogenicity - Mouse - Oral		
		Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Blood: Lymphomas including Hodgkin's disease.		
		Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.		
		Heart - Irregularities - Based on Human Evidence		
		Central nervous system - Breathing difficulties - Based on Human Evidence		
		Stomach - Irregularities - Based on Human Evidence		
Inhalative	LC50/4 h	20000 mg/l (rat)		
	LC50/96 hours	12900-15300 mg/l (Trout)		

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous

membranes.

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· on the eye:

Irritating effect. Causes serious eye irritation.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Toxic

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to humans

Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans

Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

· NTP (National Toxicology Program)

None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients are listed.

* 12 Ecological information

- · Toxicity
- · Aquatic toxicity:

64-17-5 Ethyl alcohol

EC50 34900 mg/l (daphnia)

· Persistence and degradability No further relevant information available. ·

Behavior in environmental systems:

- · *Bioaccumulative potential* No further relevant information available.
- · Mobility in soil No further relevant information available.

Additional ecological information:

- · General notes: Not known to be hazardous to water.
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods ·

Recommendation:

Observe all federal, state and local environmental regulations when disposing of this material.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

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* 14 Transport information

· UN-Number

· **DOT, ADR, IMDG, IATA** UN1993

· UN proper shipping name

· **DOT** Flammable liquids, n.o.s. (Diethyl ether, Ethanol)

· *ADR* UN1993 Flammable liquids, n.o.s. (Diethyl ether, Ethanol)

· IMDG FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL

ETHER), ETHANOL (ETHYL ALCOHOL))

(Contd. on page 9)

· IATA FLAMMABLE LIQUID, N.O.S. (DIETHYL ETHER (ETHYL

ETHER), ETHANOL)

· Transport hazard class(es)

· DOT



· Class 3 Flammable liquids

· Label 3

· ADR



· Class 3 (F1) Flammable liquids

· **Label** 3

· IMDG, IATA



· Class 3 Flammable liquids

· Label 3

· Packing group

· DOT, ADR, IMDG,

IATA

· *Environmental* Not applicable.

hazards:

· **Special** Warning: Flammable liquids

precautions for user
Danger code 33

(Kemler):

· **EMS Number:** F-E, S-E

· Transport in bulk

according to Not applicable.

Annex II of MARPOL73/78 and the IBC Code

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On

Transport/Additional passenger information:

DOT
Quantity
Ilmitations
aircraft/rail:

1 L On
cargo
aircraft

only: 30 L Code: E3

· Excepted Maximum net quantity per inner

quantities (EQ) packaging: 30 ml

Maximum net quantity per outer

packaging: 300 ml

· IMDG

· ADR

· Limited quantities 0

(LQ)

· Excepted quantities Code: E0

(EQ) Not permitted as Excepted Quantity· UN "Model UN1993, Flammable liquids, n.o.s.

Regulation": (Diethyl ether, Ethanol), 3, I

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
- · Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · California Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

64-17-5 Ethyl alcohol

· Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

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64-17-5 Ethyl alcohol		A3
76-22-2	bornan-2-one	A4
· NIOSH-C	a (National Institute for Occupational Safety and Health)	
None of th	ne ingredients are listed.	

- · **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms







GHS02 GHS06 GHS07

- · Signal word Danger
- · Hazard-determining components of labeling:

Ether bornan-2-

one Ethyl alcohol

· Hazard statements

Extremely flammable liquid and vapor.

Toxic if swallowed.

Causes skin and eye irritation.

May cause respiratory irritation. May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / eye protection / face protection.

Wear protective gloves.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

If swallowed: Immediately call a poison center/doctor.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a poison center/doctor if you feel unwell.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

In case of fire: Use for extinction: CO2, powder or water spray.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store locked up.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

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Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations: The product is subject to	be classified according with the latest version of the regulations on hazardous	3
substances.		
· State Right to Know		
CAS: 60-29-7	Ether	60-90%
RTECS: KI 5775000	♦ Flam. Liq. 1, H224; ♦ Acute Tox. 4, H302; STOT SE 3, H336	
CAS: 64-17-5 RTECS: KQ 6300000	Ethyl alcohol	15-35%
	♦ Flam. Liq. 2, H225; ♦ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	
CAS: 9004-70-0	cellulose nitrate	2-12%
CAS: 76-22-2	bornan-2-one	2-12%
	♦ Flam. Sol. 2, H228; Acute Tox. 2, H300	
CAS: 7732-18-5	Water, distilled water, deionized water	2-12%

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of

this information and the suitability of the material or product for any particular purpose.

· Date of preparation / last revision

06/11/15 - 09/25/18 /

· Abbreviations and acronyms:

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Expl. 1.1: Explosives, Division 1.1

Flam. Liq. 1: Flammable liquids, Hazard Category 1

Flam. Lig. 2: Flammable liquids, Hazard Category 2

Flam. Sol. 1: Flammable solids, Hazard Category 1

Flam. Sol. 2: Flammable solids, Hazard Category 2

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2 Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

* Data compared to the previous version altered.

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