

Section 1 - Identification of The Material and Supplier

LifeHealthcare Distribution Pty Limited
Level 8, 15 Talavera Road
North Ryde, NSW 2113
Phone: 1800 060 168 (office hours)

Supplier: SLE Ltd
Twin Bridges Business Park; 232 Selsdon Rd
South Croydon, CR2 6PL, UK
Phone +44 (0)20 8681 1414

Chemical nature: Cellulose nitrate in a suitable solvent system.
Trade Name: COLLODION
Product Code: 329057
Product Use: Used as artificial skin film.
Creation Date: April, 2014
This version issued: May, 2014 and is valid for 5 years from this date.

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: Xn, Harmful. F+, Extremely Flammable. Hazardous according to the criteria of SWA. Dangerous according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R12, R19, R22, R66, R67. Extremely flammable. May form explosive peroxides. Harmful if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

Safety Phrases: S9, S16, S20, S23, S24/25, S29, S33, S60, S3/7. Keep container in a well ventilated place. Keep away from sources of ignition - No smoking. When using, do not eat or drink. Do not breathe vapours. Avoid contact with skin and eyes. Do not empty into drains. Take precautionary measures against static discharges. This material and its container must be disposed of as hazardous waste. Keep container tightly closed in a cool place.

SUSMP Classification: None allocated.

ADG Classification: Class 3: Flammable liquids.

UN Number: 1993, FLAMMABLE LIQUID, N.O.S. (Diethyl ether, Ethanol).



GHS Signal word: DANGER

HAZARD STATEMENT:

- AUH019: May form explosive peroxides
- H224: Extremely flammable liquid and vapour.
- AUH066: Repeated exposure may cause skin dryness or cracking.
- H302: Harmful if swallowed.
- H336: May cause drowsiness or dizziness.

PREVENTION

- P102: Keep out of reach of children.
- P210: Keep away from heat, sparks, open flames and hot surfaces. - No smoking.
- P233: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical ventilating, lighting and other equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P261: Avoid breathing fumes, mists, vapours or spray.
- P262: Do not get in eyes.
- P264: Wash contacted areas thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in a well ventilated area.
- P280: Wear protective gloves, protective clothing and eye or face protection.

SAFETY DATA SHEET

RESPONSE

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P370+P378: In case of fire, use carbon dioxide, dry chemical, dry sand. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.

STORAGE

P405: Store locked up.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: If they can not be recycled, dispose of contents to an approved waste disposal plant and containers to landfill (see Section 13 of this SDS).

Emergency Overview

Physical Description & Colour: Clear colourless liquid.

Odour: Ether-like odour.

Major Health Hazards: harmful if swallowed, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness and dizziness.

Potential Health Effects

Inhalation:

Short Term Exposure: High vapour pressures may cause drowsiness and dizziness. In addition product is unlikely to cause any discomfort or irritation.

Long Term Exposure: Vapours may cause drowsiness and dizziness.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use.

Long Term Exposure: Repeated exposure may cause skin dryness or cracking.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: Ethanol is classed 1 by IARC - carcinogenic to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m ³)	STEL (mg/m ³)
Diethyl ether	60-29-7	40-80	1210	1520
Ethanol	64-17-5	20-60	1880	not set
Nitrocellulose	9004-70-0	4-13	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

SAFETY DATA SHEET

Section 4 - First Aid Measures

General Information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Generally the product does not irritate the skin. In case of irritation, gently blot away excess liquid. Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until product is removed.

Eye Contact: Quickly and gently blot material from eyes. No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Firefighters should take care and appropriate precautions. Any explosion will likely spread the fire to surrounding materials. Water spray may be used to cool drums involved in a fire, reducing the chances of an explosion. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, dry sand. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used. Try to contain spills, minimise spillage entering drains or water courses. Do not use water.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is a danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

Flash point: -40°C

Upper Flammability Limit: 36%

Lower Flammability Limit: 1.7%

Autoignition temperature: 170°C

Flammability Class: Flammable Category 1 (GHS); Highly Flammable (AS1940).

Section 6 - Accidental Release Measures

Accidental release: This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

Section 7 - Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Keep ignition sources away – Do not smoke. Product should not be transported or stored in the long term above 22°C. Protect from heat and direct sunlight. Make sure that surrounding electrical devices and switches are suitable. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination and possible evaporation. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 500kg or L of Dangerous Goods of Packaging Group I, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we

SAFETY DATA SHEET

suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Diethyl ether	1210	1520
Ethanol	1880	not set

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: Therefore you should wear suitable impervious gloves when handling this product. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: nitrile.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear colourless liquid.
Odour:	Ether-like odour.
Boiling Point:	<35°C at 100kPa
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	58.7 kPa at 20°C
Vapour Density:	No data.
Specific Gravity:	0.75-0.83 at 20°C (ASTM D1298)
Water Solubility:	Insoluble.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	170°C

Section 10 - Stability and Reactivity

Reactivity: This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

Conditions to Avoid: This product should be kept in a cool place, preferably below 22°C, out of direct sunlight. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated. Keep away from sources of sparks or ignition. Handle and open containers carefully. Any electrical equipment in the area of this product should be flame proofed.

Incompatibilities: oxidising agents, uranyl acetate, zircon tetrachloride; bromicide; sodium peroxide; aluminium ethylate; sulfuryle chloride.

Risk of explosion when exposed to: extreme heat, air, powerful oxidants; oxygen(forms peroxides); nitric acid; sulphuric acid; bromine; chlorine; hydrogen peroxide; active oxygen; sulphur (heat).

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: This product will not undergo polymerisation reactions.

SAFETY DATA SHEET

Section 11 - Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

Primary irritant effect:

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

Sensitization: No sensitizing effects known.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Diethyl Ether	Conc>=25%: Xn; R22
Diethyl Ether: LD ₅₀ Oral, Rat 1215mg/kg	LC ₅₀ Inhalation, Rat = 73,000mg/L/4hr

Section 12 - Ecological Information

Insufficient data to be sure of status. Expected to not be an environmental hazard.

Section 13 - Disposal Considerations

Disposal: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

Section 14 - Transport Information

ADG Code: 1993, FLAMMABLE LIQUID, N.O.S. (Diethyl ether, Ethanol).

Hazchem Code: •3YE

Special Provisions: 274

Limited quantities: ADG 7 specifies NO limited Quantity value for this class of product.

Dangerous Goods Class: Class 3: Flammable liquids.

Packaging Group: I

Packaging Method: P001

Class 3 Flammable Liquids shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 2.1 (Flammable Gases where flammable liquids and flammable gases are both in bulk), 2.3 (Toxic Gases), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances, except Flammable Liquid is nitromethane), and 7 (Radioactive Substances). They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases except where the Flammable Liquids and Flammable Gases are in bulk), 2.2 (Non-Flammable Non-Toxic Gases), 4.1 (Flammable Solids), 4.3 (Dangerous When Wet Substances), 6 (Toxic Substances, where Flammable Liquid is nitromethane), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods), Foodstuffs or foodstuff empties.

Section 15 - Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons

SAFETY DATA SHEET

Issued by: LifeHealthcare Distribution Pty Limited

Phone: 1800 060 168 (office hours)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)

UN Number United Nations Number

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)
Copyright © Kilford & Kilford Pty Ltd, May, 2014.
<http://www.kilford.com.au/> Phone (02)9251 4532

SAFETY DATA SHEET