

1 Identification

- **Product identifier**
 - **Trade name: 4140**
 - **Other Means of Identification:** Flux Remover for PC Boards
 - **Related Part Number:** 4140-Liquid, 4140-50ML, 4140-1L, 4140-4L, 4140-20L, 4140-P
- **Relevant identified uses of the substance or mixture and uses advised against**
 - **Application of the substance / the mixture** Flux remover for electronics
- **Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**

Mektronics Australia Pty Ltd
5 Prince William Drive
Seven Hills
NSW 2147
Australia
1300 788 701
www.mektronics.com.au
sales@mektronics.com.au

MG Chemicals Ltd. (Head Office)
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA
+(1) 905-331-1396
info@mgchemicals.com
 - **Further information obtainable from:** sds@mgchemicals.com
 - **Emergency telephone number:**

Verisk 3E (Access Code: 335388)
+61 1 800 686 951
+61 280363166

Poison Control Centre
13 11 26

2 Hazard(s) Identification

- **Classification of the substance or mixture**

Flammable liquids – Category 2 H225 Highly flammable liquid and vapour.
Eye damage/irritation – Category 2A H319 Causes serious eye irritation.
- **Label elements**
 - **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

 - **Hazard pictograms**


GHS02 GHS07
 - **Signal word** Danger
 - **Hazard statements**

H225 Highly flammable liquid and vapour.

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H319 Causes serious eye irritation.

· **Precautionary statements**

- P102 Keep out of reach of children.
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P280 Wear protective gloves, protective clothing, and eye protection.
- P370+P378 In case of fire: Use CO₂, powder or water spray to extinguish.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

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

· **Dangerous components:**

64-17-5	ethanol ⚠ Flammable liquids – Category 2, H225; ⚠ Eye damage/irritation – Category 2A, H319	93%
67-63-0	Propan-2-ol ⚠ Flammable liquids – Category 2, H225; ⚠ Eye damage/irritation – Category 2A, H319; Specific target organ toxicity (single exposure) – Category 3, H336	5%
141-78-6	ethyl acetate ⚠ Flammable liquids – Category 2, H225; ⚠ Eye damage/irritation – Category 2A, H319; Specific target organ toxicity (single exposure) – Category 3, H336	2%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Remove person to fresh air and keep comfortable for breathing.
If feeling unwell: Call a POISON CENTRE or doctor.
- **After skin contact:**
Take off immediately all contaminated clothing.
Wash with plenty of soap and water.
- **After eye contact:**
Rinse cautiously with water for 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.
- **After swallowing:**
Rinse mouth.
Do NOT induce vomiting.
If symptoms persist consult doctor.
- **Information for doctor:** Treat symptomatically

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- **Most important symptoms and effects, both acute and delayed**
See section 11 for additional information.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Vapors are heavier than air. Vapors may travel to sources of ignition near the ground. They can cause flash fire or ignite explosively.
Prevent fire-fighting wash from entering waterway or sewer system.
 - **Hazardous combustion products:** Carbon Oxides (CO_x)
- **Protective equipment:** Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Remove or keep away all sources of extreme heat or open flames.
- **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 (sand, diatomite, acid binders, universal binders, sawdust).
Collect liquid in a sealable, chemical-resistant container.
Wash residue with a paper towel and place dirty towels in container.
Use soap and water to remove the last traces of residue.
- **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**
Wear protective gloves and eye protection.
Wash hands and exposed skin thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Avoid breathing mist, spray, or vapors.
 - **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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Use explosion-proof apparatus / fittings and spark-proof tools.
 Ground and bond container and receiving equipment.

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a well-ventilated place. Keep cool.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** See section 1.2

8 Exposure controls and personal protection

· **Appropriate engineering controls** Keep airborne concentrations below exposure limits.

· **Ingredients with limit values that require monitoring at the workplace:**

64-17-5 ethanol	
WES	Long-term value: 1880 mg/m ³ , 1000 ppm
67-63-0 Propan-2-ol	
WES	Short-term value: 1230 mg/m ³ , 500 ppm Long-term value: 983 mg/m ³ , 400 ppm
141-78-6 ethyl acetate	
WES	Short-term value: 1440 mg/m ³ , 400 ppm Long-term value: 720 mg/m ³ , 200 ppm

· **Additional information:**

The lists valid during the making were used as basis.

Refer to the national or regional occupational exposure limit regulation for abbreviations and acronyms.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

· **Protection of hands:**



Protective gloves: EN374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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 can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**

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

· **Eye protection:**



Safety glasses or tightly sealed goggles: EN 166

9 Physical and Chemical Properties

· Physical state	Liquid
· Appearance:	
· Form:	Low viscosity
· Colour:	Colourless
· Odour:	Alcohol-like
· Odour threshold:	Not available
· Initial boiling point and boiling range:	78 °C
· Flash point:	12 °C
· Flammability	Highly flammable.
· Auto-ignition temperature:	425 °C
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
· Lower:	3.5 Vol %
· Upper:	15 Vol %
· Vapour pressure at 20 °C:	59 hPa
· Relative density at 25 °C:	0.791
· Vapor density (air=1):	Not available
· Evaporation rate	Not available
· Solubility in / Miscibility with	
· water:	Fully miscible.
· Solvent content:	
· Organic solvents:	100.50 %
· VOC (EC)	100.00 %
· Solids content:	0.0 %
· Other information	No further relevant information available.
· Particle characteristics	Not applicable.

10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Chemically stable at normal temperatures and pressures.

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- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Avoid ignition sources, open flames, and incompatible substances.
- **Incompatible materials:**
Strong acids
Strong bases
Halogenated compounds
Strong oxidizing agents
Aluminum at temperatures ≥ 49 °C
- **Hazardous decomposition products:** Hazardous combustion products: see section 5.

11 Toxicological Information

- **Information on toxicological effects**
 - **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

64-17-5 ethanol		
Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/L (rat)
67-63-0 Propan-2-ol		
Oral	LD50	5,045 mg/kg (rat)
Dermal	LD50	12,800 mg/kg (rabbit)
Inhalative	LC50/4 h	30 mg/L (rat)
141-78-6 ethyl acetate		
Oral	LD50	5,620 mg/kg (rabbit)
Inhalative	LC50/4 h	1,600 mg/L (rat)

- **Primary irritant effect:**
 - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
 - **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Summary of Effects and Symptoms by Routes of Exposure**

- **Eyes:**
pain
tearing of the eyes
redness, serious irritation
- **Skin:** dry skin, redness
- **Inhalation:**
Excessive exposure may cause narcotic effects, weakness, headaches, and unconsciousness.

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- **Swallowed:**
 - drowsiness or dizziness
 - nausea, vomiting
 - headache
 - slurred speech
- **Interactive effects**
 - **Delayed and immediate effects as well as chronic effects from short and long-term exposure**
No further relevant information available.

12 Ecological Information

· Toxicity

· Aquatic toxicity:	
64-17-5 ethanol	
LC50	>1,000 mg/L (fish)
67-63-0 Propan-2-ol	
EC50/ 24 h	5,102 mg/L (daphnia)
EC50/ 72 h	>2,000 mg/L (algae)
LC50 96h	9,640 mg/L (minnow)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **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** This material and its container must be disposed of as hazardous waste.
- **Uncleaned packaging:**
 - **Recommendation:**
Containers may still present a chemical hazard/ danger when empty.
Dispose of contents in accordance with all local, regional, national, and international regulations.
Where possible retain label warnings and SDS and observe all notices pertaining to the product.
 - **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA 	<p>UN1987</p>
<ul style="list-style-type: none"> · UN proper shipping name · ADG, IMDG · IATA 	<p>ALCOHOLS, N.O.S. (ethanol, Propan-2-ol) Alcohols, n.o.s. (ethanol, Propan-2-ol)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label
<ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA 	<p>II</p>
<ul style="list-style-type: none"> · Environmental hazards: 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category 	<p>Not applicable. 33 F-E,S-D B</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	<div style="text-align: center;">  </div> <p>Limited Quantity</p> <p>4140-50ML, 4140-1L, 4140-P</p>
<ul style="list-style-type: none"> · ADG · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 D/E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>

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· UN "Model Regulation":	UN 1987 ALCOHOLS, N.O.S. (ETHANOL, PROPAN-2-OL), 3, II
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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· Australian Inventory of Industrial Chemicals
All ingredients are listed.
· Standard for the Uniform Scheduling of Medicines and Poisons
None of the ingredients is listed.
· Australia: Priority Existing Chemicals
None of the ingredients is listed.

· **Directive 2012/18/EU**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

· **Department issuing SDS:** Regulatory department

· **Contact:** sds@mgchemicals.com

· **Version number of previous version:** 1.00

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flammable liquids – Category 2: Flammable liquids – Category 2
Eye damage/irritation – Category 2A: Serious eye damage/eye irritation – Category 2A
Specific target organ toxicity (single exposure) – Category 3: Specific target organ toxicity (single exposure) – Category 3

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