



Material Safety Data Sheet

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Issue date: March 2010

MEK

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: MEK

Synonym: METHYL ETHYL KETONE, ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Use: Solvent. Cleaning and thinning resins. Use of material in an unventilated or confined space may result in increased exposure and irritating atmosphere developing.

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2. HAZARDS IDENTIFICATION

HAZARDOUS ACCORDING TO NOHSC CRITERIA

Hazard Category: Irritant (Xi)

Hazard Classification: HAZARDOUS SUBSTANCE, DANGEROUS GOOD

RISK PHRASES

R11 Highly flammable
R36/37 Irritating to eyes and respiratory system.

SAFETY PHRASES

S7/9 Keep container tightly closed and in a well ventilated place.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe gas/fumes/vapour/spray [appropriate wording to be specified by the manufacturer].
S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.
S27 Take off immediately all contaminated clothing.
S29 Do not empty into drains.
S37/39 Wear suitable gloves and eye/face protection.

Poison Schedule: S5 [Aust]

This material is a Scheduled **S5** Poison and must be stored, handled and used according to the appropriate regulations..

Warning Statement:

Flammable.
Irritating to eyes and respiratory system.
Repeated exposure may cause skin dryness and cracking.
Vapours may cause drowsiness and dizziness.

3. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Proportion	CAS Number
METHYL ETHYL KETONE	Greater than 60%	78-93-3



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All other ingredients not hazardous according to NOHSC Criteria.

4. FIRST AID MEASURES

Swallowed:

If swallowed, DO NOT induce vomiting. Seek urgent medical assistance.

Eye:

If material is splashed into eyes, flush with plenty of water for at least 15 minutes, ensuring eye lids are held open. Immediately transport to hospital or doctor.

Skin:

If material is splashed onto the skin, remove any contaminated clothing and wash skin thoroughly with water and soap if available.

Inhaled:

Remove victim to fresh air. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult. Transport to hospital or doctor immediately.

First Aid Facilities:

Eye wash fountain, safety shower and normal wash room facilities.

Advice to Doctor:

Treat symptomatically. Simple ketones.

Basic treatment: Monitor and treat, where necessary, for pulmonary oedema. Monitor and treat for shock. DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool. Give activated charcoal.

Advanced treatment: Consider orotracheal or nasotracheal intubation for airway control in unconscious patient of where respiratory arrest has occurred. Positive-pressure ventilation using a bag-valve mask might be of use. Monitor and treat for arrhythmias. Start an IV D%W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications. Drug therapy considered for pulmonary oedema. Treat seizures with diazepam. Proparacaine hydrochloride should be used to assist eye irrigation.

In case of poisoning, contact Poisons Information Centre

In Australia call Tel: 131126

In New Zealand Tel: 034747000

5. FIRE-FIGHTING MEASURES

Fire/Explosion Hazard

EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide or foam.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus (SCBA) required for fire-fighting personnel. If possible to do so safely, shut off fuel to fire. Use water spray to spray to cool large fire-exposed surfaces and to protect personnel. Avoid spreading burning liquid with water used for cooling fire exposed containers when using water spray, boil-over may occur when the product temperature reaches the boiling point of water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapours from this product may travel or be moved by air currents and be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge or other ignition sources at locations distant from the point of handling.

Avoid contamination with strong oxidising agents as ignition may result. Attacks, softens and may dissolve rubber, many plastics, paints and coatings.

HAZCHEM CODE: 2[Y]E [Aust]



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FLAMMABILITY

Highly flammable liquid. Avoid all sources of ignition, heat and naked flames. Vapours may travel a considerable distance to source of ignition and ignite.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY ACTION:

Keep unnecessary people away; Isolate hazard area and deny entry. Stay upwind; Keep out of low areas.

SPILL OR LEAK PROCEDURE:

Shut off ignition sources, no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapour; but it may not prevent ignition in closed spaces.

SMALL SPILLS:

Take up with sand, dirt or vermiculite. DO NOT use sawdust. Use non-sparking tools or HEPA vacuum system. Place into labelled drum(s) for later disposal.

LARGE SPILLS:

Notify Emergency Services (Police or Fire Brigade). Tell them exact location, nature, hazards, quantities, type of vehicle and any other information that would be helpful. Consider evacuation. No smoking, naked lights or ignition sources. Contain spill. Remove all ignition sources and safely stop flow of spill. Bund area. Trained personnel should wear Personal Protective equipment as highlighted in this MSDS. Blanket the spill with foam or use water fog to disperse vapour clouds. Consult an expert regarding disposal of this product.

7. HANDLING AND STORAGE

Store in a cool place and out of direct sunlight. Do not store above 50°C. Store away from sources of heat or ignition, strong alkalis, acids, combustibles and oxidizing agents. All equipment must be earthed. Store in original packages as approved by manufacturer. Check all fittings, valves, reticulation (piping) and any ancillary equipment for leaks. A supplied air respirator or a Self-Contained Breathing Apparatus (SCBA) for emergencies should be available and checked regularly. For further information please refer to the Engineering Controls of this MSDS.

Avoid generating and breathing mist. Avoid all personal contact. Do not enter confined spaces. Work clothes to be laundered separately.

Avoid storage with with oxidisers hypochlorites, eg pool chlorine, bleaches, strong bases and chloroform.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards

No exposure standards are available for this product, however, the following exposure standards have been assigned by [NOHSC] to the following components of the product:

METHYL ETHYL KETONE

(Worksafe Australia)

[TWA]150 ppm 445 mg/m³

[STEL]300 ppm 890 mg/m³

References: A

(ACGIH)

[TWA]200 ppm 590 mg/m³

[STEL]300 ppm 885 mg/m³



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Engineering Controls

Highly flammable liquid. Maintain adequate ventilation at all times. Prevent accumulation of vapours in hollows or sumps. Eliminate any sources of ignition. Elevated temperature or mechanical action may form vapours, mists or fumes which may require local exhaust ventilation systems. Use in a well-ventilated area or local exhaust ventilation may be required for safe working to keep exposures below required standards, otherwise PPE is required. CARE; The quantity of this material in confined spaces can build rapidly. General exhaust is adequate under normal operating conditions. Local exhaust ventilation required in special conditions.

Personal Protection Equipment

CLOTHING: PVC or rubber apron.

GLOVES: Barrier cream with polyethylene gloves or butyl rubber.

EYES: Chemical goggles or faceshield to protect eyes.

RESPIRATORY PROTECTION: Avoid breathing of vapours/gases. Select and use respirators in accordance with AS/NZS 1715/1716. When gases exceed the exposure standards then the use of a half-face respirator with organic vapour cartridge is recommended. For high concentration use an atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus, complying with the requirements of AS/NZS 1715 is recommended. Filter capacity and respirator type depends on exposure levels and type of contaminant.

If entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Thin colourless liquid
Boiling Point Melting Point:	78-80°C
Vapour Pressure:	9.5 kPa @ 20°C
Specific Gravity:	0.81 @ 20°C
Flash Point:	-6.7°C closed cup
Flammability Limits:	LEL - 1.8% and UEL - 12.0%
Solubility in Water:	Does not mix with water.

Other Properties

Evaporation rate: 5.7 Fast BuAc=1

10. STABILITY AND REACTIVITY

STABILITY:

Stable under normal conditions of use.

HAZARDOUS DECOMPOSITION PRODUCTS:

Emits oxides of carbon when heated to decomposition.

HAZARDOUS POLYMERIZATION:

Will not occur.

INCOMPATIBILITIES:

Reacts with oxidising agents/acid/alkalis/amines/alcohols and chloroform.

CONDITIONS TO AVOID:

Heat, flames, ignition sources and incompatibles.

11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected, if the product is handled in accordance with this Material Safety Data Sheet and the product label. Symptoms and effects that may arise if the product is mishandled and overexposure occurs are:

ACUTE HEALTH EFFECTS:

Swallowed:



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May cause irritation to mouth, throat and stomach with effects including mucous build up, irritation to the tongue and lips and pains in the stomach, which may lead to nausea, vomiting and diarrhoea.

Eye:

The liquid is highly discomforting to the eyes if exposure is prolonged and is capable of causing pain and severe conjunctivitis. Will cause irritation to the eyes, with effects including: tearing, pain, stinging and blurred vision. Depending upon duration of exposure, eye damage may occur.

Skin:

May cause irritation to the skin, with effects including; Redness and itchiness. Toxic effects may result from skin absorption. Material on the skin evaporates rapidly and may cause tingling, chilling and even temporary numbness.

Inhaled:

Will cause irritation to the nose, throat and respiratory system with effects including: Dizziness, headache, coughing, loss of co-ordination and chest pains. Inhalation hazard is increased at higher temperatures. Ketone can cause multiple nerve disorders, including 'pins and needles' and weakness in the limbs.

Chronic:

Principal routes of exposure are usually by skin contact/absorption and inhalation of vapour. prolonged or continuous skin contact with the liquid may cause defatting with drying, cracking, irritation and prolonged or repeated skin contact may lead to dermatitis.

Prolonged contact may cause severe eye irritation and some form of permanent eye damage may occur.

Toxicological Data:

Oral rat LD50: 2737 mg/kg

Inhalation (human): TCLo: 100 ppm/ 5 m

Inhalation (rat) LD50: 23500 mg/m³/ 8 hr

Dermal (rabbit) LD50: 6480 mg/kg

Irritation:

Eye (human); 350 ppm - irritant

Eye(rabbit) 80 mg - irritant

Skin (rabbit); 402 mg/24 hr - wild

Skin (rabbit): 13.78 mg/24 hr open

There is no other toxicological information available for this product.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish LC50 (96hr) (mg/l): 1690-5640

Algae LC50 (72 hr) (mg/l): 110-4300

Mobility:

No data

Persistence / Degradability:

Aqueous Biodegradation Aerobic High - (hours): 168

Aqueous Biodegradation Aerobic - Low (hours) : 24

Aqueous Biodegradation Anaerobic - High (hours): 672

Aqueous Biodegradation Anaerobic - Low (hours): 96

Chemical Fate Information:

Bioaccumulation; not sig

Degradation Biological: sig

This substance may cause long term adverse effects in the environment



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13. DISPOSAL CONSIDERATIONS

Refer to appropriate authority in your State. Dispose of material through a licensed waste contractor. Advise flammable nature. Normally suitable for disposal by approved waste disposal agent.

14. TRANSPORT INFORMATION

Road Transport

UN Number: 1193

Proper Shipping Name: ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Dangerous Goods Class: 3

Packing Group: II

Label: Irritant (Xi)

Air Transport

UN Number: 1193

Proper Shipping Name: ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Dangerous Goods Class: 3

Packing Group: II

Label: Irritant (Xi)

Sea Transport

UN Number: 1193

Proper Shipping Name: ETHYL METHYL KETONE (METHYL ETHYL KETONE)

Dangerous Goods Class: 3

Packing Group: II

Label: Irritant (Xi)

15. REGULATORY INFORMATION

Poison Schedule: S5 [Aust]

Inventory Status:

<i>Inventory</i>	<i>Status</i>
Australia (AICS)	Y
United States (TSCA)	ND
Canada (DSL)	ND
Europe (EINECS/ELINCS)	ND
Japan (MITI)	ND
South Korea (KECL)	ND

Y = all ingredients are on the inventory.

16. OTHER INFORMATION

Date of Preparation:

Issue date: 5 March 2010

Supersedes: November 2004

Reasons for Update:

Periodic review

Key Legend Information:

NOHSC - National Occupational Health & Safety Commission {Formerly Worksafe}[Aust]



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SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons [Aust]

TWA - Time Weighted Average [Int]

STEL - Short Term Exposure Limit [Int]

AICS - Australian Inventory of Chemical Substances

EPA - Environmental Protection Agency [Int]

NIOSH - National Institute for Occupational Safety and Health [US]

AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices. [Aust/NZ]

AS/NZS 1716 - Respiratory protective devices. [Aust/NZ]

IATA - International Aviation Transport Authority [Int]

ICAO - International Civil Aviation Organization [Int]

IMO - International Maritime Organisation. [Int]

IMDG - International Maritime Dangerous Goods [Int]

United Nations Recommendations for the Transport of Dangerous Goods and Globally Harmonized System for the classification and labelling of Chemicals. [Int]

EU - European Union

[Aust/NZ] = Australian New Zealand

[Int] = International

[US] = United States of America

Removal of the heading of *Poison Schedule [Aust]*, in section 3 and 15 of this Material Safety Data Sheet (MSDS) makes this a valid health and safety document in other international jurisdictions/countries. For full compliance please contact your Federal, State or Local regulators for further information.

Disclaimer

This MSDS summarises our best knowledge of the health and safety hazard information available on the product and the measures to be used to handle and use the product safely. Each user should read this MSDS and consider the information in connection with the way the product is intended to be handled or used.

Principal References:

Information supplied by manufacturer, reference sources including the public domain.

END OF MSDS