

MATERIAL SAFETY DATA SHEET

AUSTRALIA:

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NEW ZEALAND

Emergency Response: 0800 500 288
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Hazardous according to the criteria of NOHSC Australia.

I IDENTIFICATION

This revision issued: 25 Feb 2003

Product Name: Methyl Ethyl Ketone

Other Names: MEK Proper Shipping Name is METHYL ETHYL KETONE

MSDS Code: 4341700

UN No: 1193

Hazchem Code: 2[Y]E

Dangerous Goods Class: 3 Flammable liquids.

Sub Risk Class: None allocated.

Packaging Group: II

Most EPGs may now be substituted by the Initial Emergency Response Guide, available from Standards Australia.

Poison Schedule: S5

Chemical Family: Aliphatic ketone.

Uses: Solvent with many applications in resin and paint industries. Lubricating oil dewaxing agent.

Physical Appearance & Properties

Appearance & Odour: Clear, colourless liquid. Strong ketonic odour.

Melting/softening point: -86°C

Boiling point and vapour pressure: 79-81°C at 100kPa

Volatile materials: Completely volatile at 100°C.

Flashpoint: -4°C

Specific gravity: 0.81 at 20°C

Solubility in water: Soluble.

Corrosiveness: Not corrosive.

Vapour Pressure: 9.3 kPa at 20°C; 22.3kPa at 38°C; 43.6kPa at 55°C.

Autoignition temperature 515°C.

Relative vapour density 2.40 at 20°C.

Viscosity: 0.52mm²/s at 25°C

Ingredients

Chemical Entity	CAS No	Proportion, %	Worksafe Exposure Limits	
			TWA, mg/m ³	STEL, mg/m ³
Methyl ethyl ketone	78-93-3	pure *	445	890

* Commercially pure.

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

II HEALTH HAZARD DATA

Health Effects:

No specific data is available for the product for chronic exposure symptoms. The ingredients are not listed as carcinogenic in Worksafe's document "Exposure Standards for Atmospheric Contaminants in the Occupational Environment" (May 1995).

Acute Effects:

Swallowed: Because of the low viscosity of this product, it may directly enter the lungs if swallowed, or if subsequently vomited. Once in the lungs, it is very difficult to remove and can cause severe injury or death. Product is also mildly irritating to the gastrointestinal tract. May cause mild to strong sensation to mouth and throat.

Eye: This product is irritating to the eyes. It will cause discomfort such as stinging pain, watering and redness of the eyes. Effects may last after exposure has ceased, and in severe exposure, long lasting or even permanent effects such as corneal damage can occur.

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Skin: This product is mildly irritating to skin. However, it is unlikely to cause more than minor discomfort or effects such as itchiness, occasional small blisters or slight skin reddening.

Inhalation: Data indicates that this product is irritating if inhaled. Will cause discomfort to throat and lungs and/or coughing which should disappear once exposure has ceased.

First Aid:

If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 13 1126 from anywhere in Australia.

Eyes: If this product comes into contact with eyes, hold open and wash with running water for at least 15 minutes. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. Seek medical attention.

Skin: If product gets on skin, thoroughly wash contacted areas. No further measures should normally be required unless irritation is noticed. If irritation persists, seek medical attention.

Inhalation: If vapours or mists have been inhaled, and irritation or unusual symptoms have developed, remove to fresh air and observe until recovered. If irritation or symptoms persists more than about 30 minutes, seek medical advice.

Advice to Doctor: Treat symptomatically. Note the nature of this product.

III PRECAUTIONS FOR USE

Risk Phrases are: R11, R65, R36/37. Highly flammable. Harmful: May cause lung damage if swallowed. Irritating to eyes and respiratory system.

Exposure Standards:

A time weighted average (TWA) has been established for Methyl ethyl ketone, present in significant quantities in this product. This value is 445mg/m³. The corresponding STEL level is 890mg/m³. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. See ingredients section on page 1 of this data sheet.

Engineering Controls:

In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

Personal Protection:

PVC is the preferred material for gloves, aprons, boots and other protective equipment.

Respiratory Protection: If there is a significant chance of dusts, vapours or mists accumulating in the area where this product is being used, a mask or respirator should be used. For help in selecting suitable equipment, consult AS/NZS 1715.

Protective Gloves: Impermeable protective gloves should be worn when you are using this product, to prevent irritation. For help in selecting suitable equipment, consult AS 2161.

Eye Protection: Protective eyewear should be worn when using this product. Eye contact may prove painful and dangerous and should be avoided. Consult AS1336 and AS/NZS 1337 for advice on Industrial Eye Protection.

Clothing: Clean impermeable overalls or protective clothing should always be worn when handling this product, preferably with an apron. If contaminated, laundry should be advised of the nature of the contamination, or, preferably, clothing should be destroyed. Consult AS2919 for advice on Industrial Clothing.

Safety Boots: Wearing safety boots in industrial situations is advisory. Consult AS/NZS2210 for advice on Occupational Protective Footwear.

Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

IV SAFE HANDLING INFORMATION

Safety Phrases are: S2, S9, S16, S23, S25, S33. Keep out of reach of children. Keep container in a well ventilated place. Keep away from sources of ignition - No smoking. Do not breathe vapours. Avoid contact with eyes. Take precautionary measures against static discharges.

Storage & Transport

This product is classed as UN1193, Dangerous Goods Class 3 Flammable liquids. Proper Shipping name is ETHYL METHYL KETONE (METHYL ETHYL KETONE). 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

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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, except where Flammable Liquid is nitromethane), 8 (Corrosive Substances), 9 (Miscellaneous Dangerous Goods), Foodstuffs or foodstuff empties. This product is a S5 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of product. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames, and make sure that the product does not come into contact with substances listed under "Materials to avoid" below.

Spills & Disposals

In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. Wear full protective chemically resistant clothing including face mask, face shield, gauntlets and self contained breathing apparatus. See above under Personal Protection regarding Australian Standards relating to personal protective equipment. Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. Avoid using sawdust or other combustible material. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage. Recycle containers wherever possible. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. This material may be suitable for approved landfill. Dispose of only in accord with all regulations. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

Fire & Explosion Hazard

This product is classified as a C1 combustible product. There is a moderate risk of an explosion from this product if it is involved in a fire. Firefighters should take care and appropriate precautions.

Flashpoint: -4°C

Flammability limits: Upper Value: 11.5% : Lower Value: 1.8%

Extinguishing Media: carbon dioxide, dry chemical, foam. Water fog or fine spray is the preferred medium for large fires.

Special Fire Fighting procedures: If a significant quantity of this product is involved in a fire, call the fire brigade.

Immediately evacuate the area of unnecessary personnel. When fighting fires involving significant quantities of this product, wear safety boots, non-flammable overalls, gloves, hat, goggles and self contained breathing apparatus. All skin areas should be covered. Ensure that no spillage enters drains or water courses.

Unusual Fire & Explosion Hazards: Fire decomposition products from this product may form toxic mixtures in confined spaces. 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.

Stability: This product is unlikely to spontaneously decompose.

Polymerisation: This product is unlikely to spontaneously polymerise.

Decomposition Products: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water.

Materials to avoid: oxidising agents.

Note: This product is classed as a Dangerous Good. We suggest you consult your state's Dangerous Goods laws in order to clarify your obligations regarding the storage of this product.

V OTHER INFORMATION

This MSDS is prepared in accord with the Worksafe Australia document "National Code of Practice for the Preparation of Material Safety Data Sheets", 1994.

It also conforms with the New Zealand OSH Guidelines for the Preparation of MSDSs (May 1995).

Contact Points:

	AUSTRALIA	NEW ZEALAND
Police and Fire Brigade:	Dial 000	111
If ineffective:	Dial 132203 (Exchange)	-
For emergency response:	Dial 1800 625 526	(0800)500 288
National Poisons Information Centre:	Dial 13 1126 (from anywhere in Australia)	

THIS MSDS 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 SHOULD READ THIS MSDS AND CONSIDER THE INFORMATION IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE INCLUDING IN CONJUNCTION WITH OTHER PRODUCTS. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY. THE 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.

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