

FOR FURTHER INFORMATION, PLEASE REFER TO THE SDS

Issue: November 16

PRODUCT: Methyl Ethyl Ketone
Other Names: Ethyl Methyl Ketone
Uses: Industrial solvent: paint and ink manufacture

UN No.	1193
Dangerous Goods Class	3
Subsidiary Risk	None
Pack Group	II
Hazchem	• 2YE
Poison Schedule	5

Hazardous Nature:	This product is classified as hazardous under GHS for Australia criteria
Hazardous Classification:	Flammable Liquids: 2; Acute Toxicity - Inhalation: 4; Skin Corrosion/Irritation: 2
Hazardous Statement:	Highly Flammable liquid and vapour
Exposure Standards:	TWA: 445 mg/m ³ (150 ppm); STEL: 890 mg/m ³ (300 ppm)

Physical Characteristics (Typical) **Section 9 of SDS**

Appearance	Clear, colourless liquid
Boiling Point/ Range (°C):	78 – 81
Flash Point (°C):	-4
Specific Gravity/ Density (g/ml @ 20°C):	0.81
Chemical Stability:	Stable at room temperature and pressure

Product Ingredients **Section 3 of SDS**

2-Butanone	78-93-3	> 99
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For further ingredients information, please refer to the full SDS.

GHS Pictograms **Section 2 of SDS**



For further Risk and Safety information, please refer to the full SDS.

DEFINITIONS

Dangerous Goods	Products that are classified as Dangerous for Storage and Transport: these products are allocated a UN No., with accompanying Class, Pack Group, and Sub. Risk, if required. Products that do not have a specific description under the code, but have low flash points, or such, must be classified under their most significant risk, eg. Flammable Goods N.O.S. (Not otherwise specified), UN 1993
Poisonous Substance	Products that are classified under the poisons schedule are a poisonous substance. The proportion of the poison in the product will determine its numerical classification.
Hazardous Substance	Products are considered to be Hazardous if they pose an intrinsic risk to human or environmental health, such as mutagens (able to change DNA), teratogens (able to result in birth defects), carcinogens (able to generate cell abnormalities), etc. Materials are not hazardous substances if they pose risks such as potential for misuse, like flammability, or explosions when heated and ignited.

1. IDENTIFICATION

Product Name:	Methyl Ethyl Ketone
Other Names:	Ethyl Methyl Ketone
Chemical Family:	Oxygenated hydrocarbon
Recommended Use:	Industrial solvent: paint and ink manufacture
Supplier:	Sydney Solvents Pty. Ltd.
ABN:	51 104 642 695
Street Address:	3/10 Production Place, Jamisontown NSW 2750
Telephone:	02 4722 5060
Fax:	02 4722 5070
Emergency phone:	CHEMCALL: 1800 127 406
All other inquiries:	1800 60 50 40

2. HAZARDS IDENTIFICATION**Hazardous Nature**

This product is classified as hazardous under GHS for Australia criteria

Hazardous Classification

Flammable Liquids: 2; Acute Toxicity - Inhalation: 4; Skin Corrosion/Irritation: 2

Hazardous Statement

Highly Flammable liquid and vapour

GHS Pictograms**Hazard Statements**

H225: Highly flammable liquid and vapour

H320: Causes eye irritation

AUH066: Repeated exposure may cause skin dryness or cracking

H336: May cause drowsiness or dizziness

Precautionary Statements

P403: Store in a well ventilated place.

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P262: Do not get in eyes, on skin, or on clothing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P273: Avoid release to the environment.

P370+378: In case of fire: Use sand, earth, or chemical foam to extinguish.

Dangerous Goods Classification 3**Poisons Schedule 5**

3. COMPOSITION: Information on Ingredients

Chemical Ingredient	CAS No.	Proportion (%v/v)
2-Butanone	78-93-3	> 99

4. FIRST AID MEASURES

For advice, contact Poisons Information Centre (Phone Australia: 13 1126) or a doctor.

Ingestion

If swallowed, DO NOT induce vomiting. Keep at rest. Seek immediate medical attention.

Eye Contact

Flush eyes with large amounts of water until irritation subsides. Seek immediate medical attention.

Skin Contact

Flush area with large amounts of water and wash area with soap if available. Remove contaminated clothing, including shoes, and launder before reuse. Seek medical attention for skin irritations.

Inhalation

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Seek immediate medical attention.

First Aid facilities

Provide eye baths and safety showers.

Medical Attention

Treat according to symptoms. Avoid gastric lavage: risk of aspiration of product to the lungs with the potential to cause chemical pneumonitis.

5. FIRE FIGHTING MEASURES

Shut off product that may 'fuel' a fire if safe to do so. Allow trained personnel to attend a fire in progress, providing firefighters with this Safety Data Sheet. Prevent extinguishing media from escaping to drains and waterways.

Suitable extinguishing media

Water spray, water fog or fine mist, alcohol foam

Hazards from combustion products

Carbon dioxide and carbon monoxide

Precautions for fire fighters and special protective equipment

Full protective clothing and self-contained breathing apparatus

Hazchem Code: • 2YE

6. ACCIDENTAL RELEASE MEASURES**Emergency Procedures**

Prevent fluid from escaping to drains and waterways. Contain leaking packaging in a containment drum. Prevent vapours from building up in confined areas. Ensure that drain valves are closed at all times. Clean up and report spills immediately.

Methods and materials for containment**Major Land Spill**

- Eliminate sources of ignition.
- Warn occupants of downwind areas of possible fire and explosion hazard.
- Prevent liquid from entering sewers, watercourses, or low-lying areas.
- Keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.
- Take measures to minimise the effect on the ground water.
- Contain the spilled liquid with sand or earth.
- Recover by pumping – use explosion proof pump or hand pump – or with a suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See "First Aid Measures" and "Stability and Reactivity"

Major Water Spill

- Eliminate any sources of ignition.
- Warn occupants and shipping in downwind areas of possible fire and explosion hazard.
- Notify the port or relevant authority and keep the public away from the area.
- Shut off the source of the spill if possible and safe to do so.
- Confine the spill if possible.
- Remove the product from the surface by skimming or with suitable absorbent material.
- Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
- See "First Aid Measures" and "Stability and Reactivity".

7. HANDLING AND STORAGE**Precautions for safe handling**

This product is flammable. Do not open near open flame, sources of heat or ignition. No smoking. Keep container closed. Handle containers with care. Open slowly to control possible pressure release. Use grounding leads to avoid discharge (electrical spark).

Conditions for safe storage

Store in a cool, dry place away from direct sunlight. Do not pressurise, cut, heat or weld containers - residual vapours are flammable. This product is flammable and will fuel a fire in progress.

Incompatible materials

Natural Rubber, Butyl Rubber, EPDM, Polystyrene

8. EXPOSURE CONTROLS: PERSONAL PROTECTION**National Exposure Standards**

The time weighted average concentration (TWA) for this product is: 445 mg/m³ (150 ppm), which means the highest allowable exposure concentration in an eight-hour day for a five-day working week. The short-term exposure limit (STEL) is: 890 mg/m³ (300 ppm), which is the maximum allowable exposure concentration at any time.

Biological limit values

Not available

Engineering Controls: Ventilation

The use of local exhaust ventilation is recommended to control process emissions near the source. Laboratory samples should be handled in a fume hood. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.

Personal Protective Equipment

Respiratory Protection: Where concentrations in air may exceed the limits described in the National Exposure Standards, it is recommended to use a half-face filter mask to protect from overexposure by inhalation. A type "A" filter material is considered suitable for this product.

Eye Protection: Always use safety glasses or a face shield when handling this product.

Skin/ Body Protection: Always wear long sleeves and long trousers or coveralls, and enclosed footwear or safety boots when handling this product. It is recommended that chemical resistant gloves (e.g. PVC) be worn when handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Unit of measurement	Typical value
Appearance	-	Clear, colourless liquid
Boiling Point/ Range	°C	78 – 81
Flash Point	°C	-4
Density @ 20°C	g/ml	0.81
Vapour Pressure @ 20°C	kPa	9.3
Explosive Limits (LEL – UEL)	%	1.8 – 11.5
Vapour Density @ 20°C	kPa	> 1.00
Autoignition Temperature	°C	> 450

Property	Unit of measurement	Typical value
Viscosity @ 20°C	cSt	No data available
Percent Volatiles	%	100
Solubility with Water	% w/w	Completely miscible

The values listed are indicative of this product's physical and chemical properties. For a full product specification, please consult the Product Data Sheet.

10. STABILITY AND REACTIVITY

Chemical Stability

Stable at room temperature and pressure

Conditions to avoid

Sources of heat and ignition, open flames.

Hazardous decomposition products

Carbon monoxide, carbon dioxide and other organic complexes on incomplete burning or oxidation.

Hazardous reactions

Oxidizing agents, mineral acids, halogenated organic compounds, chloroform and alkalis, stored mixtures with IPA

Hazardous Polymerisation

Will not occur

11. TOXICOLOGICAL INFORMATION

Acute Effects

Ingestion

This product is harmful by ingestion. Large amounts of this product will result in central nervous system effects such as: headaches, dizziness, hallucinations, euphoria, tingling of the extremities, vomiting, and possibly loss of consciousness.

Eye Contact

High vapour concentrations produce conjunctiva irritation. This product can cause corneal burns.

Skin Contact

This product is easily absorbed to the skin and produces dryness and cracking after prolonged contact.

Inhalation

High vapour concentrations are irritating to respiratory system producing central nervous system effects such as dizziness, headaches, nausea, vomiting and loss of appetite.

Chronic Effects

This product is an experimental teratogen and affects the peripheral nervous system (arms and legs). People with pre-existing liver or kidney disfunction should limit exposure to this product.

Other Health Effects Information

The effects of this product in combination with n-hexane are potentiated (greatly increased). This means that the effects suffered by ingestion or inhalation will be increased, or experienced more quickly.

Toxicological Information

Oral LD₅₀: MEK: 2737 mg/kg (oral, rat)

Dermal TC_{Lo}: MEK: 100 ppm (inhalation, human)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Toxicity

Fish Toxicity (rainbow trout, goldfish, bluegill):	LC ₅₀ (96hr): Goldfish: 2400000 µg/L
Daphnia Magna EC ₅₀ (24 hr):	LC ₅₀ : > 520000 µg/L
Blue-green algae (Toxicity threshold 7-8 days):	LO _{EC} : 120000 µg/L
Green algae (Toxicity threshold 7-8 days):	LO _{EC} : 4300000 µg/L

Persistence/ degradability

Volatilises in air

Mobility

This product is highly volatile and will rapidly evaporate to the air if released into the water

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should be taken to ensure compliance with national and local authorities. Packaging may still contain fumes and vapours that are flammable and harmful. Ensure that empty packaging is allowed to dry.

Special Precautions for Landfill or Incineration

This product is NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers. This product is ashless and can be burned directly in appropriate equipment.

14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN No.	1193	UN No.	1193	UN No.	1193
Proper Shipping Name	Methyl Ethyl Ketone	Proper Shipping Name	Methyl Ethyl Ketone	Proper Shipping Name	Methyl Ethyl Ketone
DG Class	3	DG Class	3	DG Class	3
Sub. Risk	None	Sub. Risk	None	Sub. Risk	None
Pack Group	II	Pack Group	II	Pack Group	II
Hazchem	• 2YE	Hazchem	• 2YE	Hazchem	• 2YE

Dangerous Goods Segregation

This product is classed as Dangerous Goods Class 3, packing group II. Please consult the Australian Dangerous Goods Code for Transport by Road and Rail for information.

15. REGULATORY INFORMATION

Country/ Region: Australia

Inventory: AICS

Status: Listed

Poisons Schedule: 5

16. OTHER INFORMATION

Reasons for Issue: Upgrade to GHS SDS; Amalgamated supplier changes in all sections

Abbreviations:

AICS: Australian Inventory of Chemical Substances

CAS Number: Chemical Abstracts Number

IARC: International Agency for Research on Cancer

NOHSC: National Occupational Health and Safety Council

References:

- Supplier Safety Data Sheets
- <http://chem.sis.nlm.nih.gov/chemidplus> (November 15)
- <http://hsis.ascc.gov.au/SearchHS.aspx> (November 15)
- Ecotoxicology data: http://cfpub.epa.gov/ecotox/quick_query.htm (November 15)
- *Sax's Dangerous Properties of Industrial Materials*, Richard J. Lewis Snr., pub. Canada (2000)

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses, but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product. For further information, please contact Sydney Solvents Pty. Ltd.