

FOR FURTHER INFORMATION, PLEASE REFER TO THE SDS

Issue: April 20

PRODUCT: Methyl Ethyl Ketone

Other Names: Ethyl Methyl Ketone

Uses: Industrial solvent: paint and ink manufacture

Signal Word: Danger

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; Serious Eye Damage/Irritation: 2A; Specific Target Organ Toxicity (Single Exposure - Respiratory Irritation): 3; Specific Target Organ Toxicity (Single Exposure - Narcotic Effects)
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):	-9
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 Sydney
Supplier:	Solvents Pty Ltd
ABN:	51 104 642 695
Street Address:	Unit 3, 10 Production Place, Jamisontown NSW 2750
Telephone:	02 4722 5060
Fax:	
Emergency phone:	CHEMCALL: 1800 127 406
All other inquiries:	02 4722 5060

2. HAZARDS IDENTIFICATION**Hazardous Nature**

This product is classified as hazardous under GHS for Australia criteria

Hazardous Classification

Flammable Liquids: 2; Serious Eye Damage/Irritation: 2A; Specific Target Organ Toxicity (Single Exposure - Respiratory Irritation): 3; Specific Target Organ Toxicity (Single Exposure - Narcotic Effects)

Hazardous Statement

Highly Flammable liquid and vapour

GHS Pictograms**Hazard Statements**

H225: Highly flammable liquid and vapour

H319: Causes serious eye irritation

H335: May cause respiratory irritation

H336: May cause drowsiness or dizziness

AUH066: Repeated exposure may cause skin dryness or cracking

Precautionary Statements

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

P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/light/.../equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge.

P261: Avoid breathing dust/fume/ gas/mist/vapours/spray.

P264: Wash ... thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P303+361+353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTER or doctor/ physician if you feel unwell

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. P337+313: If eye irritation persists get medical advice/attention.

P403+235: Store in a well ventilated place. Keep cool. P405: Store locked up

Dangerous Goods Classification 3

Poisons Schedule 5

Signal Word Danger

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). Avoid inhalation of vapours and use only in a well ventilated place. Observe good industrial hygiene practices.

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, oxidants, chloroform, bromoform and other organic solvents.

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. Products may be identified as skin sensitisers, indicated as (Sen), which means that the product will induce ever-increasing adverse effects with subsequent exposure, such as loss of feeling in extremities, or pain or irritation on contact with the product. Where (Sk) appears, the product will be easily absorbed to the skin, risking overexposure and symptoms similar to Ingestion or Inhalation. applies in this case. Refer: Section 11: Toxicological Effects.

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	-9
Density @ 20°C	g/ml	0.81
Vapour Pressure @ 20°C	kPa	9.3-10.5
Explosive Limits (LEL – UEL)	%	1.8 – 11.5
Vapour Density @ 20°C	kPa	> 1.00
Autoignition Temperature	°C	> 450
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 may harmful following 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 and may cause central nervous system effects such as dizziness, headaches, nausea, vomiting and loss of appetite.

Chronic Effects

Repeated or prolonged ingestion of this product could result in liver or kidney damage. Causes slight foetotoxicity but effects are seen only at high doses.

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

LD₅₀ (oral, rat): 2737 mg/kg (oral, rat), LD₅₀ (dermal, rabbit): 6480 mg/kg

LC₅₀ (inhalation, mouse): 32 mg/L/4 h

12. ECOLOGICAL INFORMATION**Ecotoxicity****Aquatic Toxicity**

Fish Toxicity (rainbow trout, goldfish, bluegill):	LC ₅₀ : 3220 mg/L/96 h
Daphnia Magna EC ₅₀ (24 hr):	EC ₅₀ : 5090 mg/L/48 h
Blue-green algae (Toxicity threshold 7-8 days):	No data available
Green algae (Toxicity threshold 7-8 days):	ErC ₅₀ >12000 mg/L/72 h

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 must be disposed as chemical waste in accordance with the local authority.

14. TRANSPORT INFORMATION

Road and Rail Transport		Marine Transport		Air Transport	
UN No.	1193	UN No.	1193	UN No.	1193
Proper Shipping Name	ETHYL METHYL KETONE (METHYL ETHYL KETONE)	Proper Shipping Name	ETHYL METHYL KETONE (METHYL ETHYL KETONE)	Proper Shipping Name	ETHYL METHYL KETONE (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: Information review and update, GHS classification and precaution statements corrected.

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> (April 20)
- <https://www.nicnas.gov.au/> (April 20)
- OECD eChemPortal Substance Search
<https://www.echemportal.org/echemportal/participant/page.action?pageID=9>

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 Australasian Solvents and Chemicals Company Pty. Ltd.