

Section 1. Identification**1.1 Product Identifier** ME4004

Product Name 2-METHYLPROPAN-2-OL pure 500ml.

CAS Number 75-65-0

REACH Registration No 01-2119444321-51-XXXX

Molecular Formula $(C_4H_{10}O)_n$ $n=74.12$ **1.2 Relevant identified uses of the substance or mixture & uses advised against**

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier WF Education GroupPhoenix House
Battlefield Enterprise Park
Stafford Drive
Shrewsbury
Shropshire
SY1 3FE
UNITED KINGDOM

Phone +44(0)1743 812200

Email sales@wf-education.com

Website www.timstar.co.uk

1.4 Emergency Telephone (08:30-17:00) +44(0)1743 812200
(24hr) 112
(Have this document to hand)**Section 2. Hazards Identification****2.1 Classification of the substance or mixture****Classification according to regulation 1272/2008/EC**

Flammable liquid, category 2

Acute toxicity, category 4 (inhalation)

Serious eye damage/irritation, category 2

Spec target organ tox - single, category 3

H225: Highly flammable liquid and vapour.

H332: Harmful if inhaled.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

2.2 Label elements**Labelling according to regulation 1272/2008/EC**

Signal word Danger

Hazard Pictograms



Hazard Statements	Highly flammable liquid and vapour. Harmful if inhaled. Causes serious eye irritation. May cause respiratory irritation.
Precautionary Statements	Keep away from heat / sparks/open flames/hot surfaces - No smoking. Avoid breathing dust / fume / gas / mist / vapours / spray. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Store in a well ventilated place. Keep container tightly closed.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
2-Methylpropan-2-ol	75-65-0	200-889-7	01-2119444321-51-XXXX	>98.5%	Flam. Liq. 2, Acute Tox. 4 (I), Eye Irrit. 2, STOT SE 3 (I)

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Water spray, alcohol resistant foam, dry powder or carbon dioxide. Use water spray to keep fire exposed containers cool.
Unsuitable Media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards	Vapour-air mixtures are explosive.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.
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6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
2-Methylpropan-2-ol	75-65-0	>98.5%	100.0 ppm	308.0 mg/m-3	150.0 ppm	462.0 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Clear colourless to pale coloured liquid or frozen mass.

Odour Camphor/menthol like odour.

pH Not applicable

Boiling Point 82.4°C

Melting Point 25.7°C

Flash Point 11.1°C (Closed cup)

Upper Flammable Limit 8%

Lower Flammable Limit 1.8%

Auto Ignition 480°C

Explosive Properties Moderate/severe in confined spaces.

Oxidising Properties No.

Vapour Pressure	Not applicable
Relative Density	0.7860
Water Solubility	Completely miscible in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
10.5	Incompatible Materials	Strong oxidising agents. Nitric acid. Silver nitrate, potassium perchlorate, chromyl chloride, chromium trioxide and permanganic acid. Peroxides, potassium permanganate, sodium, potassium, platinum, potassium tertiary butoxide.
10.6	Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	Both the vapour and liquid may, be irritating to the eyes. High concentrations of vapour may cause burning sensations, lachrymation, blurred vision and photophobia.
Skin	Repeated or prolonged contact may defat the skin producing irritation and dermatitis. Many of the effects typical of the vapour can result from absorption through the skin.
LD50 Skin	2000mg/kg Rat
Ingestion	Ingestion may cause symptoms resembling those of alcoholic intoxication ie excitation and irritability. Ingestion of large amounts may cause liver and kidney damage.
LD50 Oral	3100mg/kg Rat
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will effect the central nervous system acting as a narcotic.
LD50 Inhalation	31.0mg/l Rat
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	No information is available.
Other Information	The irritant effect provides warning and toxic dosages are unlikely to be absorbed.

Section 12. Ecological

12.1	Toxicity	Readily bio-degraded in the environment.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not available
12.2	Persistence and degradability	No data available.
12.3	Bioaccumulative potential	No data available.
12.4	Mobility in soil	No data available.
12.5	Results of PBT & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.

Section 14. Transport Information

14.1 UN Number	1120
14.2 Proper Shipping Name	Butanols
14.3 Transport classes	
UN classification	3
Subsidiary hazard(s)	None
Transport category	2
ADR Hazard ID	33
Tunnel Restriction Code	D/E
14.4 Packing Group	II
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Flammable liquid, category 2; Acute toxicity, category 4 (inhalation); Serious eye damage/irritation, category 2; Spec target organ tox - single, category 3

Signal word Danger

Hazard Pictograms



Hazard Statements H225, H332, H319, H335
Highly flammable liquid and vapour. Harmful if inhaled. Causes serious eye irritation. May cause respiratory irritation.

Precautionary Statements P210, P261, P305+P351+P338, P303+P361+P353, P304+P340, P403+P233
Keep away from heat / sparks/open flames/hot surfaces - No smoking. Avoid breathing dust / fume / gas / mist / vapours / spray. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Store in a well ventilated place. Keep container tightly closed.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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