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Section 1. Identification

1.1 Product Identifier 0251

Product Name DIETHYL ETHER A.R.
CAS Number 60-29-7
REACH Registration No 01-2119535785-29-XXXX
Molecular Formula $(C_2H_5)_2O = 74.12$

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 Vickers Laboratories Ltd



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1.4 Emergency Telephone (08:00-16:30) +44(0) 113 2362811 (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 1 H224: Extremely flammable liquid and vapour.
Acute toxicity, category 4 (oral) H302: Harmful if swallowed.
Spec target organ tox - single, category 3 H336: May cause drowsiness or dizziness.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Extremely flammable liquid and vapour. Harmful if swallowed. May cause drowsiness or dizziness.

Precautionary Statements Keep away from heat / sparks/open flames/hot surfaces - No smoking. Wear protective gloves / protective clothing / eye protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Store in a well ventilated place. Keep container tightly closed.

Supplemental Hazard Information (EU) May form explosive peroxides. Repeated exposure may cause skin dryness or cracking.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Diethyl Ether	60-29-7	200-467-2	01-2119535785-29-XXXX	>99.5%	Flam. Liq. 1, Acute Tox. 4 (O), STOT SE 3 (D)

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.

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 Dry powder, carbon dioxide or vaporising liquids. 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. Vapours may flow along surfaces to distant ignition sources and flash back.

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.

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.

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		
Diethyl Ether	60-29-7	>99.5%	100.0 ppm	310.0 mg/m-3	200.0 ppm	620.0 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 liquid.

Odour Ethereal.

pH Not applicable

Boiling Point 34.6°C

Melting Point -116.2°C

Flash Point -40°C (Closed cup)

Upper Flammable Limit 36%

Lower Flammable Limit 1.9%

Auto Ignition 170°C

Explosive Properties Not applicable

Oxidising Properties Not applicable

Vapour Pressure	587hPa @ 20°C
Relative Density	0.7135
Water Solubility	1.2%

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 but may form peroxides on prolonged storage if air is present.
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. Sulphuric acid. Nitric acid.
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 are, irritating to the eyes but unlikely to cause serious injury.
Skin	Repeated or prolonged contact may defat the skin producing irritation and dermatitis. Unlikely to be absorbed across the skin in harmful amounts.
LD50 Skin	Not available
Ingestion	Ingestion of large amounts will produce symptoms resembling those of alcoholic intoxication ie excitation and irritability. Further exposure will induce confusion, drowsiness, stupor and finally unconsciousness. Aspiration during swallowing or vomiting may injure lungs. Death may follow due to respiratory failure.
LD50 Oral	1215mg/kg Rat
Inhalation	Exposure to vapour concentrations above the occupational exposure limits may produce irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will induce confusion, drowsiness, stupor and finally unconsciousness
LD50 Inhalation	73000mg/l Rat (4 hours)
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	A slight increase in miscarriage rate has been reported in women exposed to solvents.
Other Information	Used medicinally as an inhalation anaesthetic.

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	1155
14.2 Proper Shipping Name	Diethyl ether
14.3 Transport classes	
UN classification	3
Subsidiary hazard(s)	None
Transport category	1
ADR Hazard ID	33
Tunnel Restriction Code	D/E
14.4 Packing Group	I
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 1; Acute toxicity, category 4 (oral); Spec target organ tox - single, category 3
Signal word	Danger
Hazard Pictograms	 
Hazard Statements	H224, H302, H336 Extremely flammable liquid and vapour. Harmful if swallowed. May cause drowsiness or dizziness.
Precautionary Statements	P210, P280, P303+P361+P353, P270, P264, P403+P233 Keep away from heat / sparks/open flames/hot surfaces - No smoking. Wear protective gloves / protective clothing / eye protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Store in a well ventilated place. Keep container tightly closed.
Supplemental Hazard Information (EU)	EUH019, EUH066 May form explosive peroxides. Repeated exposure may cause skin dryness or cracking.

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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