Camlab Limited – Material Safety Data Sheet 1110424

1. Identification

Product Code **1110424**

Product Name **DIETHYL ETHER pure**

Molecular Formula **$(C_2H_5)_2O$ =74.12**

CAS Number **60-29-7**

Supplier: **CAMLAB LIMITED**

Norman Way Industrial Estate
Over
Cambridge
England
CB4 5WE

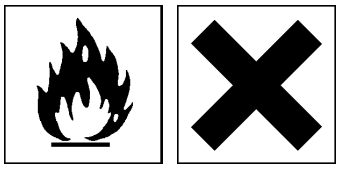
Phone **01954 233110**
Fax **01954 233101**

Emergency Telephone **08:00-17:00 01954 233110**
24hr 112
(Have this document to hand)

2. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
Diethyl Ether	60-29-7	200-467-2	> 99.5%	F+ Xn : R12,R19,R22,R66,R67	WEL

3. Hazards Identification



Extremely flammable. May form explosive peroxides. Harmful if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

4. 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.

5. Fire Fighting Measures

Hazards: Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. Vapour-air mixtures are explosive. Vapours may flow along surfaces to distant ignition sources and flash back.

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.

6. Accidental Release Measures

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

7. Storage & Handling

Handling Precautions	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.
Storage Conditions	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.

8.1 Workplace Exposure Limits

Workplace Exposure Limits	Long Term (8hr TWA):	100.0	ppm	310.0	mg m-3
	Short Term (15min Period):	200.0	ppm	620.0	mg m-3

8.2 Personal Protection

Respiratory	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.
Hands	Use solvent resistant gloves.
Eyes	Use chemical splash proof glasses or goggles.
Skin	Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

9. Physical & Chemical Properties

Appearance	Clear colourless liquid.
Odour	Ethereal.
pH	Not available
Boiling point	34.6 °C
Melting point	116.2- °C
Flash point	40.0- °C(Closed cup)
Upper Flammable Limit	36.0 %
Lower Flammable Limit	1.9 %
Auto Ignition	160.0 °C
Explosive properties	Severe in confined spaces.
Oxidising Properties	No.
Vapour Presure	442 mmHg @ 20,C
Relative Density	0.7135
Water Solubility	8.43%

10. Stability & Reactivity

Chemical Stability	Stable under normal conditions but may form peroxides on prolonged storage if air is present.
Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
Materials to Avoid	Strong oxidising agents. Sulphuric acid. Nitric acid.

10. Stability & Reactivity (continued)

Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

11. Toxicological Information

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
Ingest	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 Ingest	Oral Rat 1700mg/kg
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 will induce confusion, drowsiness, stupor and finally unconsciousness
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.

12. Ecological

Readily bio-degraded in the environment.

13. Disposal Considerations

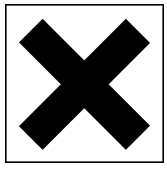
Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due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

14. Transport Information

Proper Shipping Name	Diethyl Ether
UN Number	1155
UN Classification	3 Flammable liquid
Subsidiary Risk	None
Flash Point	40.0- °C(Closed cup)
Packing Group	I
Transport Category	1
Marine pollutant	No
ADR Hazard ID	33

15. Regulatory Information

Labelling Classification	Extremely Flammable, Harmful.
Label Symbols	F+ Xn



15. Regulatory Information (continued)

Risk & safety Phrases	Extremely flammable. May form explosive peroxides. Harmful if swallowed. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Keep out of reach of children. Keep container in a well ventilated place. Keep away from sources of ignition - No Smoking. Do not empty in to drains. Take precautionary measures against static discharges.
EEC Number	200-467-2

16. Other Information

Document Information	This document has been prepared in accordance with directive 88/379/EEC. The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. Revision Date: 24/09/09. Data reviewed and PDF file generated: 17/03/10.