

SDS Reference ES7777  
Version No. 1  
Revision Date  
Origination Date 01/08/02

# Safety Data Sheet



Product Name DIMETHYL SULPHATE

## 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY

**Product Name** DIMETHYL SULPHATE  
**Synonym (s)** Methyl sulphate  
**Intended/Possible Product Use** Manufacture of dyes and organic chemicals  
**Company Identification** ENVIRONMENTAL SCIENCE LIMITED  
3 Station Approach, off Station Road  
March  
Cambridgeshire PE15 8SJ Telephone 01354 653222  
**Emergency Telephone** 01480 459229

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Chemical Characterisation** METHYLATING AGENT  
**CAS number** 000077-78-1  
**EINECS number** 201-058-1  
**EC Index number** 016-023-00-4

## 3. HAZARDS IDENTIFICATION



**VERY TOXIC**

### Physical & Chemical:

**Health:** MAY CAUSE CANCER CARC CAT2  
TOXIC IF SWALLOWED  
VERY TOXIC BY INHALATION  
CAUSES BURNS  
MAY CAUSE SENSITISATION BY SKIN CONTACT  
POSSIBLE RISK OF IRREVERSIBLE EFFECTS MUTA CAT3

**Environmental:** NOTE INFORMATION GIVEN IN SECTION 12

**Further Information:** THE SUBSTANCE HAS AN OCCUPATIONAL EXPOSURE LIMIT (MEL)

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## 4. FIRST AID MEASURES

<b>General information</b>	Take measures to avoid further contamination or contact. Remove contaminated clothing immediately, to be disposed of or washed before reuse.
<b>Inhalation</b>	If inhaled, provide fresh air, warmth, rest and SEEK MEDICAL ADVICE.
<b>Skin contact</b>	Clean areas of skin affected immediately with soap and plenty of water. SEEK MEDICAL ADVICE.
<b>Eye contact</b>	In case of contact with eyes, rinse immediately with plenty of water until irritation subsides. CONSULT AN EYE SPECIALIST/OPHTHALMOLOGIST.
<b>Ingestion</b>	If product is swallowed, do NOT induce vomiting. Drink plenty of water and SEEK MEDICAL ADVICE. Beware of aspiration if vomiting does occur.
<b>Further information</b>	

## 5. FIRE FIGHTING MEASURES

<b>General hazard</b>	THE PRODUCT WILL BURN IN A FIRE
<b>Extinguishing media</b>	To suit local surroundings (e.g. water spray, carbon dioxide, foam, chemical powder)
<b>Extinguishing media not to be used</b>	---
<b>Special exposure hazards</b>	Decomposition products released in a fire, (Oxides of carbon & sulphur), should be considered toxic if inhaled.
<b>Protective equipment</b>	Wear self-contained breathing apparatus.
<b>Further information</b>	Avoid run-off water entering the drains (e.g. use barriers).

## 6. ACCIDENTAL RELEASE MEASURES

<b>Methods for cleaning up</b>	Adhere to personal protective measures. Take up with sand into tightly closable containers. Label container and dispose of as prescribed.
<b>Environmental considerations</b>	Do not allow to get into waste water or waterways; if this occurs, inform the relevant water authority at once.
<b>Further information</b>	

## 7. HANDLING & STORAGE

<b>Advice on safe handling</b>	Handle in accordance with good hygiene and safety practice.
<b>Storage conditions</b>	Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool and dry.
<b>Further information</b>	

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Exposure controls</b>	Monitoring of the workplace should be considered in accordance with Community Exposure Limits (EH40 etc.) or other data as indicated below. LTEL (8 hour TWA): 0.05 ppm 0.26 mg/m <sup>3</sup> MEL EH40 (2002) Sk STEL (15min) ppm mg/m <sup>3</sup> <b>Sk: Can be absorbed through skin.</b>
<b>Engineering controls</b>	Provide local exhaust ventilation.
<b>Personal protection</b>	Observe normal standards for handling carcinogenic substances. Do not breathe vapour. Avoid eye and skin contact. Wash thoroughly after handling (shower if necessary). Store working clothes separately. In view of possible sensitisation effects, it is recommended that personnel with a medical history of sensitisation do not handle this product. Wear personal protective equipment appropriate to the task (see below).
<b>Eye protection</b>	Safety goggles.
<b>Skin protection</b>	Nitrile rubber gloves.
<b>Respiratory protection</b>	Respirator or air fed visor (if ventilation is insufficient).
<b>Other protection</b>	Protective overalls.
<b>Further Information</b>	Personal protective equipment should be selected as appropriate to the nature and aggressiveness of the identified hazard(s). It should be regularly inspected for such things as soundness against leaks, bad fitting and possible chemical penetration. Recommended safe user periods should never be exceeded.

## 9. PHYSICAL & CHEMICAL PROPERTIES

<b>Physical form</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Odourless
<b>Molecular weight</b>	126.13
<b>Molecular formula</b>	C <sub>2</sub> H <sub>6</sub> O <sub>4</sub> S
<b>pH</b>	Not Available
<b>Boiling pt / range</b>	188.8°C (decomposes).
<b>Melting pt / range</b>	-31.8°C
<b>General Flammability</b>	Combustible
<b>Flash point</b>	84.4°C
<b>Autoflammability</b>	470°C
<b>Density</b>	1.328 g/cm <sup>3</sup> at 20°C
<b>Explosive limits</b>	

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## 9. PHYSICAL & CHEMICAL PROPERTIES

Vapour pressure 0.072 kPa at 20°C

Vapour Density

Relative Evaporation Rate  
(n Butyl Acetate = 1)

Viscosity

Water solubility 28g/l at 20°C

Partition coefficient (log P  
n-octanol / water) 0.032

Additional information

## 10. STABILITY & REACTIVITY

Stability Stable under normal conditions of handling.

Thermal decomposition The material decomposes at 188.8 °C

Conditions to avoid In the presence of moisture, the substance becomes corrosive to most metals.

Material to avoid The product is incompatible with oxidising agents, aluminium, ammonia, ammonium hydroxide (NH<sub>4</sub>OH), sodium azide (NaN<sub>3</sub>) and magnesium.

Hazardous reactions Data not supplied.

Hazardous decomposition products Oxides of carbon & sulphur

Further information

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD <sub>50</sub> rat (oral)	205 mg/kg	
	LC <sub>50</sub> rat (inhalation)	45 mg/kg	in a 4 hour period
	LCLo Human (inhalation)	97 ppm	in a 10 minute period
	Rabbit (skin)	10 mg/24h	SEVERE
	Rabbit (eye)	0.75 mg	SEVERE

Dermal compatibility Causes burns in contact with skin

Mucous membrane compatibility Causes burns in contact with mucous membrane

Further information Consideration should be given to section 15 of this safety data sheet, noting any identified hazards for this product and route of entry whereby harm could be caused to body tissues and organs

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## 12. ECOLOGICAL INFORMATION

**Acute toxicity** LC<sub>50</sub> (Golden orfe) 14 mg/l (48/96h)  
EC<sub>50</sub> (bacteria) 1000mg/l (fermentation tube)

**Degradability** >70% (beaker test)

**Further information** Consideration should be given to any environmental or health hazards indicated in section 3, and the physical properties indicated in section 9, of this safety data sheet, in the light of any possible damage to wildlife or to the environment in land, water, air or upper atmosphere.

## 13. DISPOSAL CONSIDERATIONS

**Advice on disposal** In accordance with national (i.e. Special Waste Regulations) and local authority regulations, e.g. special waste or incineration.

**Contaminated packaging** Treat empty containers in the same way as the product or if possible wash out thoroughly and recycle.

**Further information**

## 14. TRANSPORT INFORMATION

**United Nations number** UN1595

**Proper shipping name** DIMETHYL SULPHATE

**Primary hazard class** 6.1

**Secondary hazard class(es)** 8

**Packing group** I

**Marine pollutant** This product should not be marked as a marine pollutant.

**Emergency action code** 2XE

**Further information**

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## 15. REGULATORY INFORMATION

**Classification & labelling** The product is categorised in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIP 3) and has an EC label, EC 201-058-1

*Restricted to professional users*



**VERY TOXIC**

**Risk phrases**

R45	MAY CAUSE CANCER
ALSO	
R25	TOXIC IF SWALLOWED
R26	VERY TOXIC BY INHALATION
R34	CAUSES BURNS
R43	MAY CAUSE SENSITISATION BY SKIN CONTACT

**Safety phrases**

S53	AVOID EXPOSURE - OBTAIN SPECIAL INSTRUCTION BEFORE USE
S24	AVOID CONTACT WITH THE SKIN
S45	IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE)

## 16. OTHER INFORMATION

**General summary**

**Further information**

**Sources of data** ASL, ADR, EH40, ChemHELP, Environmental Science Ltd.

**Reason for revision**

**Sections revised**

This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific properties.

Data sheet prepared by Environmental Science Limited.

ChemTrak record: ES7777

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