SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	:	Substance
Substance name	:	hexadeuterodimethyl sulfoxide
EC no	:	218-617-0
CAS No.	:	2206-27-1
Product code	:	D010, D031, D034, D046, DLM-10, DLM-34
Formula	:	C2D6OS
Synonyms	:	(methyl sulfoxide)D6 / di[(-{2}-H3)methyl] sulphoxide / dimethyl sulfoxide-D6 / dimethyl-D6 sulfoxide / methane-d3, sulfinylbis-

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category	:	Professional use
Function or use category	:	Laboratory chemicals for research. NMR solvent.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Euriso-Top
Parc des Algorithmes - Bâtiment Homère
91194 Saint-Aubin CEDEX - France - FRANCE
T +33 1 69 41 97 98 - F +33 1 69 41 93 52
eurisotop@eurisotop.com - www.eurisotop.com

1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number
UNITED KINGDOM	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS07

CLP Signal word	:	Warning
Hazard statements (CLP)	:	H335 - May cause respiratory irritation
Precautionary statements (CLP)	:	P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
hexadeuterodemethyl sulfoxide (Main constituent)	(CAS No.) 2206-27-1 (EC no) 218-617-0	100	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
hexadeuterodemethyl sulfoxide (Main constituent)	(CAS No.) 2206-27-1 (EC no) 218-617-0	100	Not classified

Full text of R-, H- and EUH-phrases: see section 16.

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell.

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

Symptoms/injuries after skin contact : Slight irritation. ON CONTINUOUS EXPOSURE/CONTACT: Red skin. Skin rash/inflammation. Breath has characteristic odour. Symptoms similar to those listed under ingestion.

Symptoms/injuries after eye contact : Slight irritation. Redness of the eye tissue.

Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Headache. Nausea. Vomiting. Abdominal pain. Dizziness.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. Feeling of weakness. Nausea. Vomiting. Headache. Breath has characteristic odour.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Polyvalent foam. Alcohol-resistant foam. Dry chemical powder. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard.

Reactivity : On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides, carbon monoxide - carbon dioxide). Reacts violently with many compounds e.g.: with (strong) oxidizers, with (some) halogens compounds and with (some) acids/bases with (increased) risk of fire/explosion.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to heat: seal off low-lying areas. Exposure to heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Protective clothing. See "Material-Handling" to select protective clothing.

Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep away from naked flames/heat. Take precautions against electrostatic charges. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases. halogens. water/moisture.

Storage area : Store in a dry area. Store at ambient temperature. Keep out of direct sunlight. Ventilation at floor level. May be stored under inert gas. May be stored under nitrogen. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL : Glass. MATERIAL TO AVOID: metal. plastics.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Materials for protective clothing : GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. neoprene. tetrafluoroethylene. latex. GIVE POOR RESISTANCE: PVC. PVA. viton. nitrile rubber. natural rubber.

Hand protection : Gloves.

Eye protection : Safety glasses.

Skin and body protection : Protective clothing.

Respiratory protection : Wear gas mask with filter type A if conc. in air > exposure limit.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Molecular mass	: 84.18 g/mol
Colour	: Colourless.
Odour	: Almost odourless. Garlic odour.
Odour threshold	: No data available
pH	: No data available
Melting point	: 20 °C
Solidification point	: No data available
Boiling point	: 190 °C
Flash point	: 82 °C
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: -1.8 vol % -58 g/m³
Vapour pressure	: 2.5 hPa (20 °C)
Vapour pressure at 50 °C	: 7.5 hPa (50 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: 1.2

Density	:	1190 kg/m³
Solubility	:	Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform.
Log Pow	:	-2.03
Log Kow	:	No data available
Self ignition temperature	:	270 °C
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Slightly volatile.

SECTION 10: Stability and reactivity

10.1. Reactivity

On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides, carbon monoxide - carbon dioxide). Reacts violently with many compounds e.g.: with (strong) oxidizers, with (some) halogens compounds and with (some) acids/bases with (increased) risk of fire/explosion.

10.2. Chemical stability

Hygroscopic.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

hexadeuterodemethyl sulfoxide (2206-27-1)	
LD50 oral rat	14500 mg/kg

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	Classification concerning the environment: not applicable.
Ecology - air	:	Not dangerous for the ozone layer (Council Regulation (EC) no 1005/2009).
Ecology - water	:	Mild water pollutant (surface water). Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia). (EC50, > 1000 mg/l). Not harmful to algae (EC50 >1000 mg/l). According to literature: harmful to the activated sludge.

hexadeuterodemethyl sulfoxide (2206-27-1)	
LC50 fishes 1	32300 mg/l (96 hours; SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS; NON DEUTERIUM FORM)
EC50 Daphnia 1	58200 mg/l (DAPHNIA MAGNA; NON DEUTERIUM FORM)
EC50 other aquatic organisms 1	12350 mg/l (96 hours; SKELETONEMA COSTATUM; NON DEUTERIUM FORM)

hexadeuterodemethyl sulfoxide (2206-27-1)	
LC50 fishes 2	33500 mg/l (96 hours; LEPOMIS MACROCHIRUS; NON DEUTERIUM FORM)
EC50 Daphnia 2	22300 mg/l (18 hours; DAPHNIA PULEX; NON DEUTERIUM FORM)
EC50 other aquatic organisms 2	16000 mg/l (16 hours; PSEUDOMONAS PUTIDA; NON DEUTERIUM FORM)

12.2. Persistence and degradability

hexadeuterodemethyl sulfoxide (2206-27-1)	
Persistence and degradability	Not readily biodegradable in water. test: 81 %, OECD 302B Zahn- Well . Photolysis in the air.

12.3. Bioaccumulative potential

hexadeuterodemethyl sulfoxide (2206-27-1)	
BCF fishes 1	< 0.4 (CYPRINUS CARPIO; NON DEUTERIUM FORM)
Log Pow	-2.03
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.

SECTION 14: Transport information

No dangerous good in sense of transport regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

VOC content : 100 %

EURAL code : 16 05 09

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product