Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 453/2010)

Revision date: 29.01.2015	*Version: 4.1*	*Print date: 29.01.2015*

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

1.1 Product identifier

Trade name/designation:	Dimethyl sulphoxide (DMSO), ultrapure
Product No.:	N182 (Amresco)
Substance name:	Dimethyl sulphoxide
CAS No.:	67-68-5
INDEX No.:	000-000-00-0
REACH registration No.:	Not yet communicated down the supply chain.
Other means of identification:	

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

Relevant identified uses:	General chemical reagent

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

Singapore

VWR Singapore Pte Ltd.

Street	18 Gul Drive
Postal code/city	Singapore 629468
Telephone	+65 6505 0760
Telefax	+65 6264 3780
E-mail (competent person)	SDS@eu.vwr.com

Emergency telephone

Telephone	+65 (0) 6505 0760 (office hours: 8 am-5 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements
Acute toxicity, category 4, oral	H302
Eye irritation, category 2	H319
Specific target organ toxicity (single exposure), category 3, vascular	H335
Skin irritation, category 2	H315

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

		not applicable

2.2 Label elements

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

Hazard pictograms

Signal word: Warning

Hazard statements	
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H315	Causes skin irritation.

Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/…
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.2.2 Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols

not applicable

R-phrases	
not applicable	

S-phrases	
not applicable	

Other hazards

SVHC No

SECTION 3: Composition / information on ingredients

3.1 Substances

Substance name	Dimethyl sulphoxide
Molecular formula	C2H6OS
Molecular weight	78,14 g/mol
CAS No.	67-68-5
REACH registration No.	Not yet communicated down the supply chain.
INDEX No.	000-000-00-0

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

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Dimethyl sulphoxide	≤100%	CAS No.: 67-68-5 EC No.: 200-664-3 REACH No.: Not yet communicated down the supply chain.	

Hazardous ingredients Classification according to 67/548/EEC

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Dimethyl sulphoxide	≤100%	CAS No.: 67-68-5 EC No.: 200-664-3 REACH No.: Not yet communicated down the supply chain.	

SECTION 4: First aid measures

4.1 General information

IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Call a POISON CENTRE/doctor/…. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

4.4 Self-protection of the first aider

First aider: Pay attention to self-protection!

4.5 Information to physician

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

The product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon dioxide (CO2) Carbon monoxide Sulphur oxides

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

5.4 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust/fume/gas/mist/vapours/spray. Provide adequate ventilation.

6.2 Environmental precautions

Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Clean contaminated objects and areas thoroughly observing environmental regulations. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes. Use extractor hood (laboratory). If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Protect from moisture.

7.2 Conditions for safe storage, including any incompatibilities

storage temperature: Ambient Temperature
Storage class: 10-13
Keep container tightly closed in a cool, well-ventilated place.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value	Remark

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.2.2 Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166
Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	0,13 mm
Breakthrough time (maximum wearing time):	10 min
Recommended glove articles:	VWR 112-0032

By long-term hand contact

Suitable material:	CR (polychloroprene, chloroprene rubber)
Thickness of the glove material:	-
Breakthrough time (maximum wearing time):	> 480 min
Recommended glove articles:	VWR 112-2157

Respiratory protection

Usually no personal respirative protection necessary.Suitable respiratory protection apparatus:

Recommendation:	no data available
Suitable material:	no data available
Recommendation:	no data available

Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.2.3 *Environmental exposure controls*

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Colour:	colourless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	no data available
(e) Melting point/freezing point:	18.5 °C
(f) Initial boiling point and boiling range:	189 °C (1013 hPa)
(g) Flash point:	87 °C
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Upper/lower flammability or explosive limits	
Lower explosion limit:	1.8 vol%
Upper explosion limit:	63 vol%
(k) Vapour pressure:	0.6 hPa (20 °C)
(l) Vapour density:	2.7 (20 °C)
(m) Relative density:	1.101 g/cm³ (20 °C)
(n) Solubility(ies)	
at 20 °C:	1000 g/l (20 °C)
Soluble (g/L) in:	no data available
(o) Partition coefficient: n-octanol/water:	-2.03 (20 °C)
(p) Auto-ignition temperature:	300 - 302 °C
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	2.14 mPa*s (20 °C)
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

9.2 Other information

Bulk density:	no data available
Refraction index:	1.4783 (20 °C; 589 nm)
Dissociation constant:	no data available
Surface tension:	no data available
Henry constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects
Acute oral toxicity:
LD50 (oral. Rat): 14500 mg/kg (RTECS)

Acute dermal toxicity:
LD50 (dermal. Rat): 40000 mg/kg (RTECS)

Acute inhalation toxicity:
no data available

Irritant and corrosive effects
Primary irritation to the skin:
not applicable

Irritation to eyes:
not applicable

Irritation to respiratory tract:
not applicable

Respiratory or skin sensitisation
In case of skin contact: not sensitising
After inhalation: not sensitising

STOT-single exposure
not applicable

STOT-repeated exposure
not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Carcinogenicity
No indication of human carcinogenicity.

Germ cell mutagenicity
No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Acute (short-term) fish toxicity:

no data available

Chronic (long-term) fish toxicity:

no data available

Acute (short-term) daphnia toxicity:

no data available

Chronic (long-term) daphnia toxicity:

no data available

Acute (short-term) algae toxicity:

no data available

Chronic (long-term) algae toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: -2,03

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product
Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package
Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information
no data available

SECTION 14: Transport information

Land transport (ADR/RID)

No dangerous good in sense of this transport regulation.

Sea transport (IMDG)

No dangerous good in sense of this transport regulation.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Air transport (ICAO-TI / IATA-DGR)

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

General rules

Water hazard class (WGK): slightly hazardous to water (WGK 1)

EU: Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)

EU: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance)

EU: Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance)

15.2 Chemical Safety Assessment

no data available

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygiensts
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
STV - Short Term Value
SVHC - Substances of Very High Concern
vPvB - very Persistent, very Bioaccumulative

Additional information

Indication of changes: Section 2

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.