



SAFETY DATA SHEET

Creation Date 29-Apr-2010

Revision Date 30-Apr-2012

Revision Number 4

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: Dimethyl sulfate
Reach Registration Number 01-2119493941-28
Cat No. 430830000; 430831000; 430830010
Synonyms Methyl sulfate

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
Janssen Pharmaceuticaalaa 3a
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 2
Skin Corrosion/irritation	Category 1 B
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1B

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) T+ - Very toxic
R-phrases(s) R45 - May cause cancer
R25 - Toxic if swallowed
R26 - Very toxic by inhalation
R34 - Causes burns
R43 - May cause sensitization by skin contact
R68 - Possible risk of irreversible effects

Dimethyl sulfate

Revision Date 30-Apr-2012

SECTION 2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

H350 - May cause cancer
H341 - Suspected of causing genetic defects
H330 - Fatal if inhaled
H301 - Toxic if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction

Precautionary Statements - EU (§28, 1272/2008)

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P280 - Wear eye protection/ face protection
P201 - Obtain special instructions before use
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Dimethyl sulfate 77-78-1	EEC No. 201-058-1	>95	77-78-1	T; R25 T+; R26 C; R34 R43 Carc. Cat. 2; R45 Muta. Cat. 3; R68	Acute Tox. 3 (H301) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1B (H350) Acute Tox. 2 (H330)	01-2119493941-28
-----------------------------	-------------------	-----	---------	--	--	------------------

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General Advice

If symptoms persist, call a physician Show this safety data sheet to the doctor in attendance

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion

Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Protection of First-aiders

Use personal protective equipment

Notes to Physician

Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Combustible material. Containers may explode when heated.

Advice for fire-fighters



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Do not breathe vapors/dust. Do not ingest. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Store under an inert atmosphere. Corrosives area.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component

Dimethyl sulfate

European Union	The United Kingdom	France	Belgium	Spain
	STEL: 0.15 ppm 15 min STEL: 0.78 mg/m ³ 15 min TWA: 0.05 ppm 8 hr TWA: 0.26 mg/m ³ 8 hr Skin	VME: 0.1 ppm 8 heures. VME: 0.5 mg/m ³ 8 heures.	TWA: 0.1 ppm 8 uren TWA: 0.53 mg/m ³ 8 uren Skin	Skin VLA-ED: 0.05 ppm 8 horas VLA-ED: 0.26 mg/m ³ 8 horas

Dimethyl sulfate

Revision Date 30-Apr-2012

Component Dimethyl sulfate

Italy	Germany	Portugal	The Netherlands	Finland
	Skin	TWA: 0.1 ppm 8 horas Skin		STEL: 0.01 ppm 15 minuutteina STEL: 0.052 mg/m ³ 15 minuutteina Skin

Component Dimethyl sulfate

Austria	Denmark	Switzerland	Poland	Norway
STEL: 0.08 ppm 15 Minuten STEL: 0.4 mg/m ³ 15 Minuten STEL: 0.16 ppm 15 Minuten STEL: 0.8 mg/m ³ 15 Minuten Skin	TWA: 0.01 ppm 8 timer TWA: 0.05 mg/m ³ 8 timer Skin	Skin MAK: 0.02 ppm 8 Stunden MAK: 0.1 mg/m ³ 8 Stunden	NDSch: 1 mg/m ³ 15 minutach NDS: 0.5 mg/m ³ 8 godzinach	TWA: 0.01 ppm 8 timer TWA: 0.05 mg/m ³ 8 timer STEL: 0.03 ppm 15 minutter. STEL: 0.15 mg/m ³ 15 minutter. Skin

Component Dimethyl sulfate

Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
TWA: 0.5 mg/m ³	Skin Notation TWA: 0.05 ppm 8 satima. TWA: 0.26 mg/m ³ 8 satima.	TWA: 0.1 ppm 8 hr. TWA: 0.5 mg/m ³ 8 hr. STEL: 0.1 ppm 15 min STEL: 0.5 mg/m ³ 15 min Skin		TWA: 0.1 mg/m ³ 8 hodinách. Potential for cutaneous absorption Ceiling: 0.2 mg/m ³

Component Dimethyl sulfate

Estonia	Gibraltar	Greece	Hungary	Iceland
		skin - potential for cutaneous absorption STEL: 0.1 ppm STEL: 0.5 mg/m ³ TWA: 0.1 ppm TWA: 0.5 mg/m ³	potential for cutaneous absorption Ceiling: 0.1 mg/m ³	TWA: 0.01 ppm 8 klukkustundum. TWA: 0.05 mg/m ³ 8 klukkustundum. Skin notation Ceiling: 0.02 ppm Ceiling: 0.1 mg/m ³

Component Dimethyl sulfate

Latvia	Lithuania	Luxembourg	Malta	Romania
TWA: 0.1 mg/m ³				Skin notation TWA: 0.1 ppm 8 ore TWA: 0.50 mg/m ³ 8 ore

Dimethyl sulfate

Revision Date 30-Apr-2012

Component Dimethyl sulfate

Russia - TWA	Slovak Republic	Slovenia	Sweden	Turkey
Skin notation MAC: 0.1 mg/m ³	TWA: 0.02 ppm 8 hodinách TWA: 0.1 mg/m ³ 8 hodinách Potential for cutaneous absorption STEL: 0.10 ppm 15 minútach STEL: 0.5 mg/m ³ 15 minútach	TWA: 0.02 ppm 8 urah manufacture TWA: 0.1 mg/m ³ 8 urah manufacture TWA: 0.04 ppm 8 urah application TWA: 0.2 mg/m ³ 8 urah application Potential for cutaneous absorption STEL: 0.08 ppm 15 minutah manufacture STEL: 0.4 mg/m ³ 15 minutah manufacture STEL: 0.16 ppm 15 minutah application STEL: 0.8 mg/m ³ 15 minutah application		

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location Use explosion-proof electrical/ventilating/lighting/equipment

Personal protective equipment

Eye Protection

Safety glasses with side-shields

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

When using, do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing

Environmental exposure controls

No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Liquid

Appearance

Colorless

odor

sweet

pH

No information available.

Vapor Pressure

1.03 mbar @ 20 °C

Vapor Density

4.35

Boiling Point/Range

188°C / 370.4°F



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Melting Point/Range	-32°C / -25.6°F
Decomposition temperature	> 180°C
Flash Point	83°C / 181.4°F
Autoignition Temperature	470°C / 878°F
Explosion Limits	
Lower	3.6 Vol%
Upper	23.2 Vol%
Evaporation Rate	No information available.
Water Solubility	2.8 g/100ml (18°C)
Specific Gravity	1.330
Molecular Formula	C2 H6 O4 S
Molecular Weight	126.13

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing..

Conditions to Avoid

Incompatible products, Excess heat, Keep away from open flames, hot surfaces and sources of ignition, Exposure to moisture.

Incompatible Materials

Strong oxidizing agents, Strong bases, Ammonia.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Sulfur oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
-----------	-----------	-------------	-----------------



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

SECTION 11. TOXICOLOGICAL INFORMATION

Dimethyl sulfate	205 mg/kg (Rat)		
------------------	-------------------	--	--

Chronic Toxicity

Carcinogenicity Component

The table below indicates whether each agency has listed any ingredient as a carcinogen

Dimethyl sulfate

IARC	UK
Group 2A	

Sensitization

Mutagenic Effects

Reproductive Effects

Developmental Effects

Target Organs

Other Adverse Effects

Endocrine Disruptor Information

May cause sensitization by skin contact

Ames test: positive.

No information available.

No information available.

Respiratory system Eyes Skin Gastrointestinal tract (GI)

See actual entry in RTECS for complete information

None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects

Do not empty into drains

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Dimethyl sulfate		LC50: 7.5 mg/L/96h (L. Macrochirus) LC50: 14 mg/L/96h (Leuciscus idus)		EC50: 17 mg/L/48h (Daphnia)

Persistence and degradability

Biodegradation 80% (15d) (Zahn-Wellens Test)

Bioaccumulative potential

No information available.

Component	log Pow
Dimethyl sulfate	0.032

Mobility in soil

No information available.



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

Results of PBT and vPvB assessment

Other adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO

UN-No	1595
Hazard Class	6.1
Subsidiary Hazard Class	8
Packing Group	I
Proper Shipping Name	DIMETHYL SULPHATE

ADR

UN-No	1595
Hazard Class	6.1
Subsidiary Hazard Class	8
Packing Group	I
Proper Shipping Name	DIMETHYL SULPHATE

IATA

UN-No	1595
Hazard Class	6.1
Subsidiary Hazard Class	8
Packing Group	I
Proper Shipping Name	DIMETHYL SULPHATE , FORBIDDEN FOR IATA TRANSPORT

SECTION 15. REGULATORY INFORMATION

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

International Inventories



SAFETY DATA SHEET

Dimethyl sulfate

Revision Date 30-Apr-2012

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Dimethyl sulfate	201-058-1	-		X	X	-	X	X	X	X	X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R25 - Toxic if swallowed

R26 - Very toxic by inhalation

R34 - Causes burns

R43 - May cause sensitization by skin contact

R45 - May cause cancer

R68 - Possible risk of irreversible effects

Revision Date 30-Apr-2012

Revision Summary

Reason for revision (M)SDS sections updated, 14.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet