

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

SECTION 1. IDENTIFICATION

Product name : Dimethyl sulfate

SDS-Identcode : 130000000491

Manufacturer or supplier's details

Company name of supplier : The Chemours Company FC, LLC

Address : 1007 Market Street
Wilmington, DE 19801 United States of America (USA)

Telephone : 1-844-773-CHEM (outside the U.S. 1-302-773-1000)

Emergency telephone : Medical emergency: 1-866-595-1473 (outside the U.S. 1-302-773-2000) ; Transport emergency: +1-800-424-9300 (outside the U.S. +1-703-527-3887)

Recommended use of the chemical and restrictions on use

Recommended use : Intermediate

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 1

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitization : Category 1

Germ cell mutagenicity : Category 2

Carcinogenicity : Category 1B

Specific target organ toxicity : Category 3
- single exposure

GHS label elements

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Hazard pictograms

:



Signal Word

:

Danger

Hazard Statements

:

H227 Combustible liquid.
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

Precautionary Statements

:

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, sparks, open flame and hot surfaces. No smoking.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves, protective clothing, eye protection and face protection.
P284 Wear respiratory protection.

Response:

P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER.
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.
P308 + P313 IF exposed or concerned: Get medical attention.
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P363 Wash contaminated clothing before reuse.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version 9.4 Revision Date: 10/31/2023 SDS Number: 1326263-00044 Date of last issue: 04/21/2023
Date of first issue: 02/27/2017

Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : Dimethyl sulfate
CAS-No. : 77-78-1

Components

Chemical name	CAS-No.	Concentration (% w/w)
Dimethyl sulfate	77-78-1	$\geq 90 - \leq 100$
Methyl hydrogen sulphate	75-93-4	$\geq 0.1 - < 1$

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention immediately.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention immediately.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control center immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Most important symptoms and effects, both acute and delayed :

- Irritation
- Edema
- Swelling of tissue
- Shortness of breath
- Vomiting
- Diarrhea
- Headache
- Fever
- Redness
- Rash
- Inflammation
- Circulatory collapse
- Convulsions
- Jaundice
- Toxic if swallowed.
- May cause an allergic skin reaction.
- Causes serious eye damage.
- Fatal if inhaled.
- May cause respiratory irritation.
- Suspected of causing genetic defects.
- May cause cancer.
- Causes severe burns.
- Causes digestive tract burns.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media :

- Water spray
- Alcohol-resistant foam
- Carbon dioxide (CO₂)
- Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting :

- Do not use a solid water stream as it may scatter and spread fire.
- Flash back possible over considerable distance.
- Vapors may form explosive mixtures with air.
- Exposure to combustion products may be a hazard to health.

Hazardous combustion products :

- Sulfur oxides
- Carbon oxides

Specific extinguishing methods :

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Use water spray to cool unopened containers.
- Remove undamaged containers from fire area if it is safe to do

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

so.
Evacuate area.

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.
for fire-fighters Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Only trained personnel should re-enter the area.
Remove all sources of ignition.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g., by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe mist or vapors.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version 9.4 Revision Date: 10/31/2023 SDS Number: 1326263-00044 Date of last issue: 04/21/2023
Date of first issue: 02/27/2017

practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers.
Store locked up.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Self-reactive substances and mixtures
Organic peroxides
Flammable liquids
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dimethyl sulfate	77-78-1	TWA	0.1 ppm	ACGIH
		TWA	0.1 ppm 0.5 mg/m ³	NIOSH REL
		TWA	1 ppm 5 mg/m ³	OSHA Z-1

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type	Control parameters	Basis
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SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version 9.4 Revision Date: 10/31/2023 SDS Number: 1326263-00044 Date of last issue: 04/21/2023
Date of first issue: 02/27/2017

		(Form of exposure)	ters / Permissible concentration	
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		ST	250 ppm 325 mg/m ³	NIOSH REL
		TWA	200 ppm 260 mg/m ³	NIOSH REL
		TWA	200 ppm 260 mg/m ³	OSHA Z-1
Sulphuric acid	7664-93-9	TWA (Thoracic particulate matter)	0.2 mg/m ³	ACGIH
		TWA	1 mg/m ³	NIOSH REL
		TWA	1 mg/m ³	OSHA Z-1

Engineering measures : Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
If sufficient ventilation is unavailable, use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection
Material : butyl-rubber

Remarks : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Breakthrough time is not determined for the product. Change gloves often!

Eye protection : Wear the following personal protective equipment:
Chemical resistant goggles must be worn.
If splashes are likely to occur, wear:
Face-shield

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : colorless
- Odor : odorless
- Odor Threshold : No data available
- pH : No data available
- Melting point/freezing point : No data available
- Solidification / Setting point : -26 °F / -32 °C
- Initial boiling point and boiling range : 372 °F / 189 °C
(1,013 hPa)
- Flash point : 181 °F / 83 °C
Method: Tag closed cup
- Evaporation rate : No data available
- Flammability (solid, gas) : Not applicable
- Flammability (liquids) : Ignitable (see flash point)

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Upper explosion limit / Upper flammability limit	:	23.2 %(V)
Lower explosion limit / Lower flammability limit	:	3.6 %(V)
Vapor pressure	:	0.93 hPa (77 °F / 25 °C)
Relative vapor density	:	No data available
Relative density	:	1.33 (68 °F / 20 °C)
Solubility(ies) Water solubility	:	28 g/l hydrolyzes (64 °F / 18 °C)
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	923 °F / 495 °C
Decomposition temperature	:	No data available
Viscosity Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Combustible liquid. Vapors may form explosive mixture with air. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air.
Conditions to avoid	:	Exposure to moisture. Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Water

Hazardous decomposition products

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Contact with water or humid air : Methanol
Sulphuric acid

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Toxic if swallowed.
Fatal if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 100.11 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 0.0451 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Components:

Dimethyl sulfate:

Acute oral toxicity : LD50 (Rat): > 85.1 - 106.4 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.045 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: Corrosive to the respiratory tract.

Methyl hydrogen sulphate:

Acute oral toxicity : LD50 (Rat): > 50 - 300 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 0.01 - 0.05 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: Corrosive to the respiratory tract.
Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes severe burns.

Components:

Dimethyl sulfate:

Species : Rabbit

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Result : Corrosive after 3 minutes to 1 hour of exposure

Methyl hydrogen sulphate:

Species : Rabbit
Result : Corrosive after 3 minutes to 1 hour of exposure
Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Dimethyl sulfate:

Species : Rabbit
Result : Irreversible effects on the eye

Methyl hydrogen sulphate:

Species : Rabbit
Result : Irreversible effects on the eye
Remarks : Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

Dimethyl sulfate:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

Methyl hydrogen sulphate:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

Germ cell mutagenicity

Suspected of causing genetic defects.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Components:

Dimethyl sulfate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: positive Test Type: Chromosome aberration test in vitro Result: positive Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: positive
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: positive
Germ cell mutagenicity - Assessment	:	Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Methyl hydrogen sulphate:

Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: positive Remarks: Based on data from similar materials
Germ cell mutagenicity - Assessment	:	Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Carcinogenicity

May cause cancer.

Components:

Dimethyl sulfate:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	15 Months
Result	:	positive
Carcinogenicity - Assessment	:	Sufficient evidence of carcinogenicity in animal experiments

Methyl hydrogen sulphate:

Species	:	Rat
Application Route	:	inhalation (vapor)
Exposure time	:	15 Months
Result	:	positive

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

IARC Group 2A: Probably carcinogenic to humans
Dimethyl sulfate 77-78-1

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP Reasonably anticipated to be a human carcinogen
Dimethyl sulfate 77-78-1

Reproductive toxicity

Not classified based on available information.

Components:

Dimethyl sulfate:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Result: negative

Methyl hydrogen sulphate:

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Result: negative
Remarks: Based on data from similar materials

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Dimethyl sulfate:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 14 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 17 mg/l

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

aquatic invertebrates		Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 46.9 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50: 376.6 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Methyl hydrogen sulphate:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): > 10 - 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): > 10 - 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

Persistence and degradability

Components:

Dimethyl sulfate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 97 % Exposure time: 28 d Method: OECD Test Guideline 301E
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Methyl hydrogen sulphate:

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301E
Remarks: Based on data from similar materials

Bioaccumulative potential

Components:

Dimethyl sulfate:

Partition coefficient: n-octanol/water : log Pow: 0.16
Remarks: Calculation

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1595
Proper shipping name : DIMETHYL SULPHATE
Class : 6.1
Subsidiary risk : 8
Packing group : I
Labels : 6.1 (8)
Environmentally hazardous : no

IATA-DGR

Not permitted for transport

IMDG-Code

UN number : UN 1595
Proper shipping name : DIMETHYL SULPHATE

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version 9.4 Revision Date: 10/31/2023 SDS Number: 1326263-00044 Date of last issue: 04/21/2023
Date of first issue: 02/27/2017

Class : 6.1
Subsidiary risk : 8
Packing group : I
Labels : 6.1 (8)
EmS Code : F-A, S-B
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1595
Proper shipping name : Dimethyl sulfate

Class : 6.1
Subsidiary risk : 8
Packing group : I
Labels : POISON INHALATION HAZARD, CORROSIVE
ERG Code : 156
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Dimethyl sulfate	77-78-1	100	100

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Dimethyl sulfate	77-78-1	100	100

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
Dimethyl sulfate	77-78-1	500

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Germ cell mutagenicity
Carcinogenicity
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Dimethyl sulfate	77-78-1	>= 90 - <= 100 %
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US State Regulations

Pennsylvania Right To Know

Dimethyl sulfate	77-78-1
Sulphur dioxide	7446-09-5
Methanol	67-56-1

California Prop. 65

WARNING: This product can expose you to chemicals including Dimethyl sulfate, which is/are known to the State of California to cause cancer, and Sulphur dioxide, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California List of Hazardous Substances

Dimethyl sulfate	77-78-1
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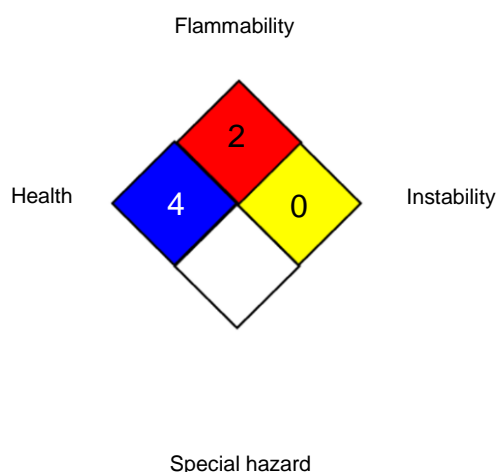
California Permissible Exposure Limits for Chemical Contaminants

Dimethyl sulfate	77-78-1
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	4
FLAMMABILITY		2
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

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For further information contact the local Chemours office or nominated distributors.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



Dimethyl sulfate

Version	Revision Date:	SDS Number:	Date of last issue: 04/21/2023
9.4	10/31/2023	1326263-00044	Date of first issue: 02/27/2017

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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