

## Safety Data Sheet

according to 29 CFR 1910.1200(g)

### NATURAL DIMETHYL DISULFIDE

Revision date: 03/10/2023

Product code: 353600US

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#### 1. Identification

##### Product identifier

NATURAL DIMETHYL DISULFIDE

Substance name: NATURAL DIMETHYL DISULFIDE  
 CAS No: 624-92-0

##### Recommended use of the chemical and restrictions on use

###### Use of the substance/mixture

Manufacturing of: - Air care products - Perfumes, fragrances - Pharmaceuticals - Cosmetics, personal care products - Flavouring Substances - Other

##### Details of the supplier of the safety data sheet

Company name:	Axxence Aromatic GmbH	
Street:	Tackenweide 28	
Place:	D-46446 Emmerich am Rhein	
Telephone:	+ 49 2822 68561 0	Telefax: + 49 2822 68561 39
e-mail:	info@axxence.com	
Contact person:	Andreas Goertz	Telephone: + 49 2822 68561 37
e-mail:	andreas.goertz@axxence.com	
Internet:	www.axxence.de	
Responsible Department:	QM - Regulatory Affairs	

**Emergency phone number:** +49 2822 68561 99

#### 2. Hazard(s) identification

##### Classification of the chemical

###### **29 CFR Part 1910.1200**

Flammable liquids: Flam. Liq. 2  
 Acute toxicity: Acute Tox. 3 (inhalation)  
 Acute toxicity: Acute Tox. 3 (oral)  
 Serious eye damage/eye irritation: Eye Irrit. 2  
 Respiratory or skin sensitization: Skin Sens. 1  
 Specific target organ toxicity single exposure: STOT SE 1  
 Specific target organ toxicity single exposure: STOT SE 3 (narcotic effects)  
 Hazardous to the aquatic environment: Aquatic Acute 1  
 Hazardous to the aquatic environment: Aquatic Chronic 1

##### Label elements

###### **29 CFR Part 1910.1200**

**Signal word:** Danger

**Pictograms:**



##### **Hazard statements**

Highly flammable liquid and vapor  
 Toxic if swallowed or if inhaled  
 May cause an allergic skin reaction  
 Causes serious eye irritation  
 May cause drowsiness or dizziness  
 Causes damage to organs

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**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a poison center/doctor.  
Rinse mouth.  
If on skin: Wash with plenty of Water and soap.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Wash contaminated clothing before reuse.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Call a poison center/doctor.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
If exposed: Call a poison center or doctor/physician.  
Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container to Organic waste.

**Hazards not otherwise classified**

No information available.

**3. Composition/information on ingredients****Substances**

Sum formula: C<sub>2</sub> H<sub>6</sub> S<sub>2</sub>  
Molecular weight: 94,2

**Hazardous components**

CAS No	Components	Quantity
624-92-0	NATURAL DIMETHYL DISULFIDE	100 %

**4. First-aid measures****Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down.

**After inhalation**

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

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#### After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

#### Most important symptoms and effects, both acute and delayed

No information available.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## 5. Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

##### Unsuitable extinguishing media

Water.

#### Specific hazards arising from the chemical

Highly flammable. Vapors may form explosive mixtures with air.

#### Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

#### Additional information

Use water spray/stream to protect personnel and to cool endangered containers. Suppress gases/vapors/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

##### General advice

Remove all sources of ignition. Do not breathe gas/fume/vapor/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

#### Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk.

#### Methods and material for containment and cleaning up

##### For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

##### Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

#### Reference to other sections

Safe handling: see section 7

Personal protection equipment (PPE): see section 8

Disposal: see section 13

## 7. Handling and storage

#### Precautions for safe handling

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#### Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapor/spray.

#### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapors may form explosive mixtures with air.

#### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

#### Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

##### Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

## 8. Exposure controls/personal protection

#### Control parameters

#### Exposure limits

CAS No	Substance	ppm	mg/m <sup>3</sup>	f/cc	Category	Origin
624-92-0	Dimethyl disulfide	0.5			TWA (8 h)	ACGIH-2022

#### Exposure controls



#### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fume/vapor/spray.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Suitable eye protection: goggles.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing . .

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

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#### Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state:	Liquid
Color:	Colourless to pale yellow
Melting point/freezing point:	-85 °C
Boiling point or initial boiling point and boiling range:	110 °C
Flammability:	not determined
Lower explosion limits:	1,1 vol. %
Upper explosion limits:	16,1 vol. %
Flash point:	15 °C
Auto-ignition temperature:	304 °C
Decomposition temperature:	not determined
pH-Value:	not determined
Viscosity / kinematic: (at 40 °C)	0,47 mm <sup>2</sup> /s
Water solubility: (at 20 °C)	2,7 g/L
Solubility in other solvents	not determined
Partition coefficient n-octanol/water:	1,91
Vapor pressure: (at 20 °C)	30 hPa
Vapor pressure: (at 50 °C)	124 hPa
Density (at 20 °C):	1,06 g/cm <sup>3</sup>
Relative vapour density: (at 20 °C)	3,23

### Other information

#### Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Sustaining combustion:

Sustaining combustion

Oxidizing properties

The product is not: oxidising.

#### Other safety characteristics

Evaporation rate: not determined

Solvent content: 0%

Solid content: 0%

Viscosity / dynamic:  
(at 20 °C) 0,59 mPa·s

## 10. Stability and reactivity

### Reactivity

Highly flammable.

### Chemical stability

The product is stable under storage at normal ambient temperatures.

### Possibility of hazardous reactions

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Exothermic reaction with: strong oxidizing and reducing agents, strong bases

#### **Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapors may form explosive mixtures with air.

#### **Incompatible materials**

No information available.

#### **Hazardous decomposition products**

No known hazardous decomposition products.

## 11. Toxicological information

### **Information on toxicological effects**

#### **Acute toxicity**

Toxic if swallowed

Toxic if inhaled

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
624-92-0	NATURAL DIMETHYL DISULFIDE				
	oral	LD50 mg/kg 190	Rat	REACH Dossier	OECD 401
	dermal	LD50 mg/kg >5000	Rat	REACH Dossier	OECD 402
	inhalation (4 h) vapour	LC50 5 mg/l	Rat	REACH Dossier	EPA/OPPTS Guideline 870.1300

#### **Irritation and corrosivity**

Causes serious eye irritation

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### **Sensitizing effects**

May cause an allergic skin reaction (NATURAL DIMETHYL DISULFIDE)

#### **Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

#### **Specific target organ toxicity (STOT) - single exposure**

Causes damage to organs (NATURAL DIMETHYL DISULFIDE)

May cause drowsiness or dizziness (NATURAL DIMETHYL DISULFIDE)

#### **Specific target organ toxicity (STOT) - repeated exposure**

Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA): Not listed.

Carcinogenicity (IARC): Not listed.

Carcinogenicity (NTP): Not listed.

#### **Aspiration hazard**

Based on available data, the classification criteria are not met.

### **Information on other hazards**

#### **Endocrine disrupting properties**

No information available.

## 12. Ecological information

### **Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

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CAS No	Components					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
624-92-0	NATURAL DIMETHYL DISULFIDE					
	Acute fish toxicity	LC50 mg/l	0,97	96 h	Oncorhynchus mykiss (Rainbow trout)	REACH Dossier  EPA OPPTS Draft Guideline 850.1075
	Acute algae toxicity	ErC50 mg/l	0,55	96 h		REACH Dossier  OECD 201
	Acute crustacea toxicity	EC50 mg/l	1,82	48 h	Daphnia magna (Big water flea)	REACH Dossier  OECD 202
	Fish toxicity	NOEC mg/l	0,936	28 d	Pimephales promelas (fathead minnow)	REACH Dossier  OECD 210
	Crustacea toxicity	NOEC mg/l	0,0025	21 d	Daphnia magna (Big water flea)	REACH Dossier  OECD 211
	Acute bacteria toxicity	(EC50 mg/l)	>1000	3 h	Activated sludge	REACH Dossier  OECD 209

#### Persistence and degradability

The product has not been tested.

#### Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Components	Log Pow
624-92-0	NATURAL DIMETHYL DISULFIDE	1,91

#### BCF

CAS No	Components	BCF	Species	Source
624-92-0	NATURAL DIMETHYL DISULFIDE	0,3		

#### Mobility in soil

The product has not been tested.

#### Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

No information available.

#### Other adverse effects

No information available.

#### Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### 13. Disposal considerations

#### Waste treatment methods

##### **Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

##### **Contaminated packaging**

Hazardous waste according to Directive 2008/98/EC (waste framework directive). Handle contaminated packages in the same way as the substance itself.

### 14. Transport information

**U.S. DOT 49 CFR 172.101**

**UN number or ID number:**

UN 2381

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**Proper shipping name:** DIMETHYL DISULFIDE  
**Transport hazard class(es):** 3  
**Packing group:** II  
Hazard label: 3, 6.1



#### Marine transport (IMDG)

**UN number or ID number:** UN 2381  
**UN proper shipping name:** DIMETHYL DISULPHIDE  
**Transport hazard class(es):** 3  
**Packing group:** II  
Hazard label: 3+6.1



Marine pollutant: P  
Special Provisions: -  
Limited quantity: 1 L  
Excepted quantity: E0  
EmS: F-E, S-D

#### Air transport (ICAO-TI/IATA-DGR)

**UN number or ID number:** UN 2381  
**UN proper shipping name:** DIMETHYL DISULPHIDE  
**Transport hazard class(es):** 3  
**Packing group:** II  
Hazard label: 3+6.1



Limited quantity Passenger: Forbidden  
Passenger LQ: Forbidden  
IATA-packing instructions - Passenger: Forbidden  
IATA-max. quantity - Passenger: Forbidden  
IATA-packing instructions - Cargo: Forbidden  
IATA-max. quantity - Cargo: Forbidden

#### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: DIMETHYL DISULFIDE

#### Special precautions for user

Warning: Combustible liquid. Acute Toxicity.

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

not applicable

### 15. Regulatory information

#### U.S. Regulations

##### National regulatory information



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SARA Section 311/312 Hazards:

NATURAL DIMETHYL DISULFIDE (624-92-0): Fire hazard, Immediate (acute) health hazard

**State Regulations****Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**

This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**16. Other information**

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**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

**Other data**

The information is based on the present level of our knowledge. It does not, however, give assurance of

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product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.