



Sodium molybdate a.r.

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 3/17/2023 Version: 1.1

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

1.1. Product identifier

Product form	: Substance
Trade name	: Sodium molybdate a.r.
CAS-No.	: 10102-40-6
Product code	: CL00.1435
Type of product	: Pure substance
Formula	: $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$
Synonyms	: disodium molybdate, dihydrate / molybdic acid, disodium salt, dihydrate / molyhibit 100 / sodium molybdate(VI) dihydrate / sodium molybdate-2-hydrate
BIG No	: 16654

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

1.2.1. Relevant identified uses

Use of the substance/mixture	: Laboratory chemical
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Chem-Lab nv
Industriezone 'De arend 2'
Zedelgem – Belgium
Belgium
T +32 50 288320
info@chem-lab.be - <https://www.chem-lab.be>

1.4. Emergency telephone number

Emergency number	: +32 50 28 83 20
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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]

No labelling applicable

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	: Mono-constituent
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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium molybdate a.r.	CAS-No.: 10102-40-6	100	Not classified

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
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. Soap may be used. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists.
First-aid measures after eye contact	: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Call Poison Information Centre (www.big.be/antigif.html). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

Symptoms/effects after inhalation	: AFTER INHALATION OF DUST: Coughing. Respiratory difficulties.
Symptoms/effects after skin contact	: Slight irritation.
Symptoms/effects after eye contact	: Redness of the eye tissue. Slight irritation.
Symptoms/effects after ingestion	: AFTER INGESTION OF HIGH QUANTITIES: Vomiting. Nausea.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Tingling/irritation of the skin.

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	: Adapt extinguishing media to the environment for surrounding fires.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Reactivity in case of fire	: On burning: release of (highly) toxic gases/vapours.

5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray.
Protection during firefighting	: Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- | | |
|----------------------------------|---|
| Protective equipment | : Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034).
Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). |
| Emergency procedures | : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.
Wash contaminated clothes. |
| Measures in case of dust release | : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. |

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 product, collect/pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. |
| Methods for cleaning up | : Stop dust cloud by humidifying. Scoop solid spill into closing containers. 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 | : Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed. |
| Hygiene measures | : Observe strict hygiene. |

7.2. Conditions for safe storage, including any incompatibilities

- | | |
|------------------------------|--|
| Storage temperature | : 20 °C |
| Heat and ignition sources | : KEEP SUBSTANCE AWAY FROM: heat sources. |
| Information on mixed storage | : KEEP SUBSTANCE AWAY FROM: oxidizing agents. halogens. |
| Storage area | : Store in a dry area. Keep container in a well-ventilated place. Store at room temperature.
Meet the legal requirements. |
| Special rules on packaging | : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements.
Secure fragile packagings in solid containers. |

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

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Sodium molybdate a.r. (10102-40-6)	
Belgium - Occupational Exposure Limits	
OEL TWA	0.5 mg/m ³
France - Occupational Exposure Limits	
VME (OEL TWA)	5 mg/m ³
VLE (OEL C/STEL)	10 mg/m ³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	5 mg/m ³
WEL STEL (OEL STEL)	10 mg/m ³
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	0.5 mg/m ³ (Respirable fraction)

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Sodium molybdate a.r. (10102-40-6)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, inhalation	23.97 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	7.3 mg/kg bw/day
Long-term - systemic effects, inhalation	7.15 mg/m ³
PNEC (Water)	
PNEC aqua (freshwater)	27.25 mg/l
PNEC aqua (marine water)	4.87 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	48500 mg/kg dwt
PNEC sediment (marine water)	5058 mg/kg dwt
PNEC (Soil)	
PNEC soil	20.39 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	46.57 mg/l

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

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8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses (EN 166). In case of dust production: protective goggles (EN 166)

8.2.2.2. Skin protection

Skin and body protection:

Protective clothing (EN 14605 or EN 13034)

Hand protection:

Gloves

8.2.2.3. Respiratory protection

Respiratory protection:

Dust production: dust mask with filter type P1

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Colourless or white.
Appearance	: Crystalline solid. Crystalline powder.
Molecular mass	: 241.95 g/mol
Odour	: Odourless.
Odour threshold	: Not available
Melting point	: 687 °C
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: 7.9 – 10.3 (5 %)
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Soluble in water. Water: 64 g/100ml
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 3280 kg/m³
Relative density	: 3.3
Relative vapour pressure at 20°C	: Not applicable
Particle size	: Not available

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9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Minimum ignition energy : Not applicable
VOC content : 0 %
Other properties : Basic reaction

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with (some) halogens compounds.

10.2. Chemical stability

Stable under normal conditions.

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Sodium molybdate a.r. (10102-40-6)

LD50 oral rat	4233 mg/kg (Rat, Oral)
LD50 dermal rat	> 2000 mg/kg (Rat, Dermal)

Skin corrosion/irritation : Not classified
pH: 7.9 – 10.3 (5 %)
Serious eye damage/irritation : Not classified
pH: 7.9 – 10.3 (5 %)
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

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11.2.2. Other information

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg), Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg), Moderately irritant for eyes

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Classification concerning the environment: not applicable. Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Slightly harmful to crustacea. Slightly harmful to fishes. Slightly harmful to algae. Photolysis in water.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Not rapidly degradable

Sodium molybdate a.r. (10102-40-6)	
LC50 - Fish [1]	644.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Semi-static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	130.9 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	289.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence)

12.2. Persistence and degradability

Sodium molybdate a.r. (10102-40-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Sodium molybdate a.r. (10102-40-6)	
BCF - Fish [1]	4.9 (28 day(s), Oncorhynchus tshawytscha, Fresh water, Weight of evidence, Anhydrous form)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Sodium molybdate a.r. (10102-40-6)	
Ecology - soil	No (test) data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

Sodium molybdate a.r. (10102-40-6)	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

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12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove to an authorized dump (Class I). Precipitate/make insoluble.
- Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
- European List of Waste (LoW) code : 15 01 10* - packaging containing residues of or contaminated by dangerous substances
06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

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Rail transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

VOC Directive (2004/42)

VOC content : 0 %

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Employment restrictions

: Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK)

: Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV).

Storage class (LGK, TRGS 510)

: LGK 13 - Non-combustible solids.

Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for

: LGK 1, LGK 6.2, LGK 7.

Joint storage with restrictions permitted for

: LGK 4.1A, LGK 5.1C.

Joint storage permitted for

: LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13.

Hazardous Incident Ordinance (12. BImSchV)

: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

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Netherlands

ABM category	: B(5) - low hazard for aquatic organisms
SZW-lijst van kankerverwekkende stoffen	: The substance is not listed
SZW-lijst van mutagene stoffen	: The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	: The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	: The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: The substance is not listed

Switzerland

Storage class (LK)	: NG - Non-hazardous
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15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

No additional information available

Safety Data Sheet (SDS), EU

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.