

Section 1 - Identification

| | |
|---------------------|---------------------------------------------------------------|
| Product Name | <u>Sodium Molybdate</u> |
| CAS No | 10102-40-6 |
| Synonyms | Disodium Molybdate Dihydrate.; Molybdic Acid Sodium Dihydrate |

| | |
|--------------------------------|------------------------------------------------------------------------------------------------------|
| Product Code | AJA360, AJA396 |
| Address | ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia |
| Emergency Tel. | CHEMTREC® 03 9757 4559 or +613 9757 4559 |
| Telephone / Fax Numbers | Tel: 1300 735 292 Fax: 1800 067 639 |
| E-mail address | ANZinfo@thermofisher.com |

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as not hazardous according to criteria of Safe Work Australia.

Physical hazards
No hazards identified

Health hazards
No hazards identified

Environmental hazards
No hazards identified

Label Elements None required

Other information

This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|----------------------------|------------|----------|
| Sodium molybdate dihydrate | 10102-40-6 | >95 |
| Sodium molybdate | 7631-95-0 | - |

Section 4 - First Aid Measures

| | |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration. |
| Ingestion | Do NOT induce vomiting. Get medical attention if symptoms occur. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur. |
| Self-Protection of the First Aider | No special precautions required. |
| First Aid Facilities | Eyewash, safety shower and washroom. |
| Most important symptoms and effects | No information available. |
| Notes to Physician | Treat symptomatically. |

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Hazardous Decomposition Products

Metal oxides.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing.

Environmental Precautions

Avoid release to the environment. Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up**Clean-up methods - small spillage**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

Clean-up methods - large spillage

Not applicable, packaged goods.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

| Component | Australia | New Zealand WEL | ACGIH TLV | The United Kingdom | Germany |
|----------------------------|--------------------------|-----------------|----------------------------|--------------------------------------------------------------------|---------|
| Sodium molybdate dihydrate | TWA: 5 mg/m ³ | | TWA: 0.5 mg/m ³ | STEL: 10 mg/m ³ 15 min TWA: 5 mg/m ³ 8 hr | |
| Sodium molybdate | TWA: 5 mg/m ³ | | TWA: 0.5 mg/m ³ | STEL: 10 mg/m ³ 15 min TWA: 5 mg/m ³ 8 hr | |

Biological limit values

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

Exposure Controls**Engineering Measures**

None under normal use conditions.

Personal protective equipment**Eye Protection**

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|----------------|-------------------|-----------------|-----------------|-----------------------|
| Natural rubber | See manufacturers | | AS/NZS 2161 | (minimum requirement) |
| Nitrile rubber | recommendations | | | |

Neoprene
PVC

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type: Particle filter (or AUS/NZ equivalent)

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|------------------------------------------------|--------------------------------------------------------|------------------------------------------|
| Appearance | White | |
| Physical State | Powder Solid | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| pH | 9.0-10 | |
| Melting Point/Range | No data available | |
| Softening Point | No data available | |
| Boiling Point/Range | No information available | |
| Flash Point | No information available | Method - No information available |
| Evaporation Rate | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Vapor Pressure | No data available | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | 3.280 | |
| Bulk Density | No data available | |
| Water Solubility | 56 g/100 ml (O°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | Not applicable | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |
| Other information | | |
| Molecular Formula | Mo Na ₂ O ₄ · 2 H ₂ O | |
| Molecular Weight | 241.95 | |

Section 10 - Stability and Reactivity

| | |
|----------------------------------|-----------------------------------------------------------|
| Reactivity | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Avoid dust formation, Incompatible products, Excess heat. |
| Incompatible Materials | Strong oxidizing agents. |
| Hazardous Decomposition Products | Metal oxides. |
| Hazardous Polymerization | Hazardous polymerization does not occur. |

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

| | |
|------------|------------------------------------------------------------------|
| Oral | Based on available data, the classification criteria are not met |
| Dermal | No data available |
| Inhalation | No data available |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|---------------------------|---------------------------|------------------------------|
| Sodium molybdate | LD50 = 4000 mg/kg (Rat) | LD50 > 2000 mg/kg (Rat) | LC50 > 5.84 mg/L (Rat) 4 h |

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

| | |
|-------------|-------------------|
| Respiratory | No data available |
| Skin | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity;

No data available
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure;

Target Organs No information available.

(j) aspiration hazard;

Not applicable
Solid

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed No information available

Section 12 - Ecological Information

| | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity effects | Do not empty into drains. Do not allow material to contaminate ground water system. May cause long-term adverse effects in the environment. |
| Persistence and Degradability | Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary |
| Persistence | May persist, based on information available. |
| Degradability | Not relevant for inorganic substances. |
| Degradation in sewage treatment plant | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
| Bioaccumulative Potential | May have some potential to bioaccumulate |
| Mobility | The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility Highly mobile in soils |
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Ozone Depletion Potential | This product does not contain any known or suspected substance |

Section 13 - Disposal Considerations

| | |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste from Residues/Unused Products | Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations. |
| Contaminated Packaging | Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers. |
| Other Information | Chemical wastes should be disposed through a licensed commercial waste collection service. |

Section 14 - Transport Information

| | |
|-------------------------------|---------------------------------|
| <u>IMDG/IMO</u> | Not regulated |
| <u>ADG</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| Environmental hazards | No hazards identified |
| Special Precautions | No special precautions required |
| Additional information | None known |

Section 15 - Regulatory Information

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

National Regulations **Australia**

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

No poison schedule number allocated.

Australian Industrial Chemicals Introduction Scheme (AICIS)

| Component | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|-----------------------------------------|-------------------------------------------------------------|------------------------|
| Sodium molybdate dihydrate - 10102-40-6 | Present | - |
| Sodium molybdate - 7631-95-0 | Present | - |

Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Not applicable**Prohibition or notification/licensing requirements**

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

| Component | AICS | NZIoC | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | ISHL | IECSC | KECL |
|----------------------------|------|-------|-----------|--------|------|-----|------|-------|------|------|-------|----------|
| Sodium molybdate dihydrate | X | X | - | - | - | - | - | X | X | X | X | - |
| Sodium molybdate | X | X | 231-551-7 | - | X | X | - | X | X | X | X | KE-12357 |

Legend: X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**International Regulations****Ozone Depletion Potential** This product does not contain any known or suspected substance**Persistent Organic Pollutant** This product does not contain any known or suspected substance**Rotterdam Convention (PIC)** Not applicable**Basel convention on the control of transboundary movements of hazardous wastes and their disposal**

Not applicable.

| Component | CAS No | OECD HPV | Restriction of | Seveso III Directive | Seveso III Directive |
|-----------|--------|----------|----------------|----------------------|----------------------|
|-----------|--------|----------|----------------|----------------------|----------------------|

| | | | Hazardous Substances (RoHS) | (2012/18/EC) - Qualifying Quantities for Major Accident Notification | (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|----------------------------|------------|----------------|-----------------------------|----------------------------------------------------------------------|---------------------------------------------------------------------|
| Sodium molybdate dihydrate | 10102-40-6 | Not applicable | Not applicable | Not applicable | Not applicable |
| Sodium molybdate | 7631-95-0 | Listed | Not applicable | Not applicable | Not applicable |

Authorisation/Restrictions according to EU REACH

Not applicable

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

NZS 5433:2020 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

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

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail

OECD - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date

12-Mar-2025

Revision Summary

Update to GHS format.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of Safety Data Sheet