Material Safety Data Sheet
Sodium Molybdate Dihydrate

ACC# 95022

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Sodium Molybdate Dihydrate  
**Catalog Numbers:** S80186, S336-3, S336-500  
**Synonyms:** Molybdcic Acid Sodium Dihydrate; Disodium Molybdate Dihydrate.  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10102-40-6</td>
<td>Sodium molybdate dihydrate</td>
<td>100</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

**Hazard Symbols:** XI  
**Risk Phrases:** 36/37/38

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

Appearance: white solid. **Warning!** Causes eye and skin irritation. May cause digestive tract irritation. Causes respiratory tract irritation. The toxicological properties of this material have not been fully investigated.  
**Target Organs:** No data found.

**Potential Health Effects**  
**Eye:** Causes eye irritation. May cause chemical conjunctivitis.  
**Skin:** Causes skin irritation.  
**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.  
**Inhalation:** Causes respiratory tract irritation. The toxicological properties of this substance have not been fully investigated. Can produce delayed pulmonary edema.  
**Chronic:** Effects may be delayed.

Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and
lower eyelids. Get medical aid.**

**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

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**Section 5 - Fire Fighting Measures**

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0

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**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

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**Section 7 - Handling and Storage**

**Handling:** Wash thoroughly after handling. Use only in a well-ventilated area. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

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**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
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</thead>
<tbody>
<tr>
<td>Sodium molybdate dihydrate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Sodium molybdate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

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OSHA Vacated PELs: Sodium molybdate dihydrate: No OSHA Vacated PELs are listed for this chemical. Sodium molybdate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment
**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
**Skin:** Wear appropriate protective gloves to prevent skin exposure.
**Clothing:** Wear appropriate protective clothing to prevent skin exposure.
**Respirators:** A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

### Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Appearance:** white  
**Odor:** none reported  
**pH:** Not applicable.  
**Vapor Pressure:** Not applicable.  
**Vapor Density:** Not available.  
**Evaporation Rate:** Not applicable.  
**Viscosity:** Not applicable.  
**Boiling Point:** Not applicable.  
**Freezing/Melting Point:** Not available.  
**Decomposition Temperature:** Not available.  
**Solubility:** Not available.  
**Specific Gravity/Density:** 3.28  
**Molecular Formula:** Na2MoO4.2H2O  
**Molecular Weight:** 241.944

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.  
**Conditions to Avoid:** Incompatible materials, dust generation, excess heat.  
**Incompatibilities with Other Materials:** Strong oxidizing agents.  
**Hazardous Decomposition Products:** Irritating and toxic fumes and gases, toxic fumes of sodium oxide.  
**Hazardous Polymerization:** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:**  
**CAS# 10102-40-6:** QA5085000  
**CAS# 7631-95-0:** QA5075000  
**LD50/LC50:**  
Not available.

**CAS # 7631-95-0:**  
Inhalation, rat: LC50 = >2080 mg/m3/4H;  
Oral, rat: LD50 = 4 gm/kg;
Oral, rat: LD50 = 0.25 gm/kg;

**Carcinogenicity:**
CAS# 10102-40-6:

**ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (as Mo) (list CAS# 7631-95-0):

**ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans (as Mo) (list

**Epidemiology:** No information available.
**Teratogenicity:** No information available.
**Reproductive Effects:** No information available.
**Neurotoxicity:** No information available.
**Mutagenicity:** No information available.
**Other Studies:** No data available.

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**Section 12 - Ecological Information**

No information available.

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**Section 13 - Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.
**RCRA U-Series:** None listed.

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**Section 14 - Transport Information**

<table>
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<th>Shipping Name:</th>
<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IMO</th>
<th>Canada TDG</th>
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<td>Hazard Class:</td>
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<td>UN Number:</td>
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<td>Packing Group:</td>
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**Section 15 - Regulatory Information**

**US FEDERAL**

**TSCA**
CAS# 10102-40-6 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7631-95-0 is listed on the TSCA inventory.

**Health & Safety Reporting List**
None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**SARA**

**CERCLA Hazardous Substances and corresponding RQs**
None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**
None of the chemicals in this product have a TPQ.

**SARA Codes**
CAS # 7631-95-0: chronic.

**Section 313**
No chemicals are reportable under Section 313.

**Clean Air Act:**
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
CAS# 10102-40-6 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7631-95-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**
XI

**Risk Phrases:**
R 36/37/38 Irritating to eyes, respiratory system and skin.

**Safety Phrases:**
S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**
CAS# 10102-40-6: 1
CAS# 7631-95-0: 1

**Canada - DSL/NDSL**
CAS# 7631-95-0 is listed on Canada's DSL List.

**Canada - WHMIS**
This product has a WHMIS classification of D2B.

**Canadian Ingredient Disclosure List**
CAS# 10102-40-6 (listed as Molybdenum compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.
CAS# 7631-95-0 is listed on the Canadian Ingredient Disclosure List.

**Exposure Limits**
CAS# 10102-40-6: OEL-AUSTRALIA:TWA 10 mg(Mo)/m3 OEL-BELGIUM:TWA 10 mg(Mo)/m3 OEL-DENMARK:TWA 10 mg(Mo)/m3 OEL-FRANCE:TWA 5 mg(Mo)/m3;ST EL 10 mg(Mo)/m3 JAN9 OEL-GERMANY:TWA 15 mg(Mo)/m3 OEL-THE NETHERLAND S:TWA 10 mg(Mo)/m3 OEL-THE PHILIPPINES:TWA 15 mg(Mo)/m3 OEL-SWEDEN:T WA 10 mg(Mo)/m3 (total dust) OEL-SWEDEN:TWA 5 mg(Mo)/m3 (resp. dust)
OEL-SWITZERLAND:TWA 10 mg(Mo)/m3 OEL-TURKEY:TWA 15 mg(Mo)/m3 OEL-UNITED KINGDOM:TWA 10 mg(Mo)/m3; STEL 20 mg(Mo)/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 7631-95-0: OEL-AUSTRALIA:TWA 5 mg(Mo)/m3 OEL-BELGIUM:TWA 5 mg(Mo)/m3 OEL-DENMARK:TWA 5 mg(Mo)/m3 OEL-FINLAND:TWA 5 mg(Mo)/m3 OEL-FRANCE:TWA 5 mg(Mo)/m3; STEL 10 mg(Mo)/m3 JAN9 OEL-GERMANY:TWA 5 mg(Mo)/m3 OEL-THE NETHERLANDS:TWA 5 mg(Mo)/m3 OEL-THE PHILIPPINES:TWA 5 mg(Mo)/m3 OEL-SWITZERLAND:TWA 5 mg(Mo)/m3 OEL-TURKEY:TWA 5 mg(Mo)/m3 OEL-UNITED KINGDOM:TWA 5 mg(Mo)/m3; STEL 10 mg/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

### Section 16 - Additional Information

**MSDS Creation Date:** 12/01/1998  
**Revision #5 Date:** 1/03/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.