SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 08/13/2014 Version 1. 0

SECTION 1. Identification

Product identifier

Product number	SX0650
Product name	Sodium Molybdate Dihydrate GR ACS
CAS-No.	10102-40-6

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

Identified uses	Reagent for analysis

Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS-Labeling

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

OSHA Hazards

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula	$Na_2MoO_4 * 2 H_2O$	$Na_2MoO_4 * 2 H_2O$ (Hill)
Molar mass	241.95 g/mol	

Hazardous ingredients

Chemical Name (Concentration)
CAS-No.
disodium molybdate dihydrate (>= 90 % - <= 100 %)
10102-40-6

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air.

Skin contact
After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact
After eye contact: rinse out with plenty of water.

Ingestion
After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Nausea, Vomiting
Symptoms of an acute molybdenum(VI) intoxication: diarrhea, anemia (decreased hemoglobin concentration in the blood), fatigue. Toxic effect on liver and kidneys after high doses.

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.
Ambient fire may liberate hazardous vapors.

Advice for firefighters

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

Further information
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at room temperature.

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Ingredients

Basis	Value	Threshold limits	Remarks
disodium molybdate dihydrate 10102-40-6			
ACGIH	Time Weighted Average (TWA):	0.5 mg/m³	Form of exposure: Respirable fraction. Expressed as: as Mo
OSHA_TRANS	PEL:	5 mg/m³	Expressed as: as Mo
Z1A	Time Weighted Average (TWA):	5 mg/m³	Expressed as: as Mo

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Respiratory protection
required when dusts are generated.
Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	crystals
Color	white
Odor	odorless
Odor Threshold	not applicable
pH	9 - 10 at 840 g/l 68 °F (20 °C)
Melting point	687 °C
Boiling point/boiling range	not applicable
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapor pressure	not applicable
Relative vapor density	No information available.
Density	2.71 g/cm³ at 72 °F (22 °C)
Relative density	No information available.
Water solubility	840 g/l at 68 °F (20 °C)

Partition coefficient: n-octanol/water	not applicable
Autoignition temperature	No information available.
Decomposition temperature	266 °F (130 °C) Elimination of water of crystallization
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Bulk density	1,000 - 1,400 kg/m³

SECTION 10. Stability and reactivity

Reactivity
See below

Chemical stability
releases water of crystallization when heated.

Possibility of hazardous reactions
no information available

Conditions to avoid
Strong heating (decomposition).

Incompatible materials
no information available

Hazardous decomposition products
no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure
Eye contact, Skin contact, Ingestion

Acute oral toxicity
LD50 rat: 4,233 mg/kg (External MSDS)

Symptoms: Nausea, Vomiting

Acute dermal toxicity
LD50 rat: > 2,000 mg/kg
(External MSDS)

Skin irritation
rabbit
Result: No irritation
(External MSDS)

Eye irritation
rabbit
Result: slight irritation
(External MSDS)

Sensitization
Sensitization test: guinea pig
Result: negative
Method: OECD Test Guideline 406

Genotoxicity in vivo
Mutagenicity (mammal cell test): micronucleus.
Result: positive
(Lit.)

Genotoxicity in vitro
Mutagenicity (mammal cell test):
Result: positive
(Lit.)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	Confirmed animal carcinogen with unknown relevance to humans.
	disodium molybdate dihydrate 10102-40-6

Further information

Symptoms of an acute molybdenum(VI) intoxication: diarrhea, anemia (decreased hemoglobin concentration in the blood), fatigue. Toxic effect on liver and kidneys after high doses.
However, when the product is handled appropriately, hazardous effects are unlikely to occur.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

NOEC Oncorhynchus mykiss (rainbow trout): 3,200 mg/l; 96 h (External MSDS)

LC50 Oncorhynchus mykiss (rainbow trout): 7,600 mg/l; 96 h (External MSDS)

Toxicity to daphnia and other aquatic invertebrates

NOEC Daphnia magna (Water flea): 100 mg/l; 48 h (External MSDS)

EC50 Daphnia magna (Water flea): 330 mg/l; 48 h (External MSDS)

Toxicity to algae

NOEC Pseudokirchneriella subcapitata (green algae): 4.6 mg/l; 72 h (External MSDS)

IC50 Pseudokirchneriella subcapitata (green algae): > 100 mg/l; 72 h (External MSDS)

Toxicity to bacteria

EC10 Pseudomonas putida: 50 mg/l; 18 h (External MSDS)

Persistence and degradability

No information available.

Bioaccumulative potential

Partition coefficient: n-octanol/water

not applicable

Mobility in soil

No information available.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

Not classified as dangerous in the meaning of transport regulations.

Air transport (IATA)

Not classified as dangerous in the meaning of transport regulations.

Sea transport (IMDG)

Not classified as dangerous in the meaning of transport regulations.

SECTION 15. Regulatory information

United States of America

OSHA Hazards

No OSHA Hazards

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

No SARA Hazards

SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Ingredients

disodium molybdate dihydrate

New Jersey Right To Know

Ingredients

disodium molybdate dihydrate

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:	All components of the product are listed in the TSCA-inventory.
DSL:	All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.
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