



Safety Data Sheet  
According to the (US) Hazard Communication Standard (29 CFR 1910.1200)

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**Product Name** Molybdovanadate Reagent  
**NCL Catalog Number** M-65  
**Product Description** Laboratory chemical  
**Supplier**  
NCL of Wisconsin, Inc. **Telephone:** 1-800-648-7836 **Fax:** 715-449-2454  
P.O. Box 8 **Emergency Contact:** 1-800-424-9300 (Chemtrec)  
Biramwood, WI 54414 **Email:** [nclabs@nclabs.com](mailto:nclabs@nclabs.com)

**SECTION 2: HAZARDS IDENTIFICATION**

**GHS Classification**

Skin Corrosion Category 1B  
Serious Eye Damage Category 1



**Signal Word** Danger

**Hazard Statements**

H314 Causes severe skin burns and eye damage.

**Precautionary Statements**

P260 Do not breathe mist/vapors/spray.  
P264 Wash exposed skin thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P363 Wash contaminated clothing before reuse.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P310 Immediately call a POISON CENTER or doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor.  
P405 Store locked up.  
P501 Dispose of contents/container to comply with local, state and federal regulations.

**Other Hazards Not Contributing to the Classification**

None under normal conditions.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Identity** Not applicable

**Common Name** Not applicable

Mixture

Name	CAS #	Approximate %
Water	7732-18-5	63.62
Hydrochloric Acid, 37% w/w	7647-01-0	33.75
Ammonium Molybdate Tetrahydrate	12054-85-2	2.5
Ammonium Metavanadate	7803-55-6	0.13

**SECTION 4: FIRST AID MEASURES**

### **Description of First Aid Measures**

<b>General First Aid Measures</b>	Never give anything by mouth to an unconscious person. Seek medical advice if you feel unwell.
<b>If Inhaled</b>	Remove person to fresh air and keep comfortable for breathing. Allow victim to rest. Immediately call a POISON CENTER or doctor.
<b>In Case of Skin Contact</b>	Remove all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor.
<b>In Case of Eye Contact</b>	Rinse carefully with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
<b>If Swallowed</b>	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

### **Most Important Symptoms/Effects Acute and Delayed**

<b>After Inhalation</b>	Possible inflammation of the respiratory tract.
<b>After Skin Contact</b>	Caustic burns/corrosion of the skin.
<b>After Eye Contact</b>	Causes serious eye irritation.
<b>After Ingestion</b>	Nausea and vomiting. Irritation of the gastric/intestinal mucosa. Diarrhea
<b>Chronic Symptoms</b>	Discoloration of the teeth.

### **Indication of Immediate Medical Attention and Special Treatment Needed**

Seek medical attention if exposed.

## **SECTION 5: FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

<b>Suitable Extinguishing Media</b>	Foam. Dry powder. Sand. Carbon dioxide. Water spray.
<b>Unsuitable Extinguishing Media</b>	Do not use high pressure water stream.

### **Special Hazards Arising from the Chemical**

Thermal decomposition generates corrosive vapors. Reacts with some metals to release highly flammable gases/vapors.

### **Special Protective Actions for Fire-Fighters**

Wear self-contained breathing apparatus and protective clothing. Keep exposed containers cool with water spray.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

<b>Personal Precautions</b>	Use personal protective equipment (see section 8). Evacuate area of non-essential personnel. Eliminate ignition sources. Ventilate area.
<b>Environmental Precautions</b>	Prevent entry to surface and ground waters.
<b>Methods and Materials for Containment and Cleaning Up</b>	Clean up spill with inert absorbent material. Collect spillage. Store away from other materials. Ensure compliance with local, state and federal regulations.

## **SECTION 7: HANDLING AND STORAGE**

<b>Precautions for Safe Handling</b>	Avoid contact with eyes and skin. Avoid breathing vapors. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
<b>Conditions for Safe Storage Including any Incompatibilities</b>	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Store away from sunlight, which can contribute to instability. Store away from; metals, cyanides, strong bases.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control Parameters**

Ammonium Molybdate Tetrahydrate (12054-85-2)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>

**Appropriate Engineering Controls**

Material should be handled or transferred in a fume hood or with equivalent ventilation. Maintain eye-wash fountain and quick-drench facilities in work area.

**Individual Protection Measures**

Avoid all unnecessary exposure.

**Eye/Face Protection**

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material.

**Skin Protection**

Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.

**Respiratory Protection**

Wear appropriate mask.

**Other Information**

Do not eat, drink or smoke when using this product.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Liquid
<b>Color</b>	Light yellow
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not determined
<b>pH</b>	Not determined
<b>Melting Point/Freezing Point</b>	Not determined
<b>Initial Boiling Point and Boiling Range</b>	Not determined
<b>Flash Point</b>	Not determined
<b>Evaporation Rate</b>	Not determined
<b>Flammability (Solid, Gas)</b>	Not determined
<b>Upper/Lower Flammability/Explosive Limits</b>	Not determined
<b>Vapor Pressure</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Relative Density</b>	Not determined
<b>Solubility</b>	Soluble in water
<b>Partition Coefficient: n-octanol/water</b>	Not determined
<b>Auto-Ignition Temperature</b>	Not determined
<b>Decomposition Temperature</b>	Not determined
<b>Viscosity</b>	Not determined

**SECTION 10: STABILITY AND REACTIVITY**

<b>Reactivity</b>	Thermal decomposition generates toxic hydrogen chloride fumes.
<b>Chemical Stability</b>	Stable under ordinary conditions of use and storage.
<b>Possibility of Hazardous Reactions</b>	Reacts violently with some bases and with the evolution of heat.
<b>Conditions to Avoid</b>	Extremely high or low temperatures. Heat and sunlight can contribute to instability.
<b>Incompatible Materials</b>	Metal oxides, hydroxides, amines, alkaline materials, cyanides, sulfides, sulfites, formaldehyde, metals, and strong bases.
<b>Hazardous Decomposition Products</b>	When heated to decomposition, can emit toxic gases, hydrogen chloride, carbon dioxide, and carbon monoxide. Thermal decomposition generates corrosive

vapors.

**SECTION 11: TOXICOLOGICAL INFORMATION**

<b>Acute Toxicity</b>	Not classified
<b>Hydrochloric Acid, 37% w/w (7647-01-0)</b>	
<b>LD50 dermal rabbit</b>	5010 mg/kg
<b>LD50 oral rat</b>	700 mg/kg
<b>Ammonium Metavanadate (7803-55-6)</b>	
<b>LD50 oral rat</b>	58.1 mg/kg
<b>LD50 dermal rat</b>	2102 mg/kg
<b>Water (7732-18-5)</b>	
<b>LD50 oral rat</b>	≥90000 mg/kg

<b>Skin Corrosion/Irritation</b>	Causes severe skin burns.
<b>Serious Eye Damage/Irritation</b>	Causes serious eye damage.
<b>Respiratory or Skin Sensitization</b>	Not classified
<b>Germ Cell Mutagenicity</b>	Not classified
<b>Carcinogenicity</b>	Not classified
<b>Reproductive Toxicity</b>	Not classified
<b>Specific Target Organ Toxicity (Single Exposure)</b>	Not classified
<b>Specific Target Organ Toxicity (Repeated Exposure)</b>	Not classified
<b>Aspiration Hazard</b>	Not classified
<b>Potential Adverse Human Health Effects and Symptoms</b>	No data available
<b>Symptoms/Injuries After Inhalation</b>	Possible inflammation of the respiratory tract
<b>Symptoms/Injuries After Skin Contact</b>	Caustic burns/corrosion of the skin
<b>Symptoms/Injuries After Eye Contact</b>	Causes serious eye damage.
<b>Symptoms/Injuries After Ingestion</b>	Nausea. Vomiting. Irritation of the gastric/intestinal mucosa. Diarrhea.
<b>Chronic Symptoms</b>	Discoloration of the teeth
<b>Other Information</b>	Not available

**SECTION 12: ECOLOGICAL INFORMATION**

<b>Toxicity</b>	Not applicable
<b>Persistence and Degradability</b>	Not applicable
<b>Bioaccumulative Potential</b>	Not applicable
<b>Mobility in Soil</b>	Not applicable
<b>Other Adverse Effects</b>	Not applicable

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Methods of Disposal**

<b>Disposal Recommendations</b>	Dispose of contents/containers in accordance with local, state and federal regulations.
<b>Other Information</b>	Avoid release to the surrounding environment.

**SECTION 14: TRANSPORT INFORMATION**

<b>UN Number</b>	1789
<b>UN Shipping Name</b>	Hydrochloric acid solution.
<b>Transport Hazard Class(es)</b>	Not applicable
<b>Packing Group</b>	Not applicable
<b>Environmental Hazards</b>	Not applicable
<b>Transport in Bulk</b>	Not applicable
<b>Other Precautions</b>	Not applicable

**SECTION 15: REGULATORY INFORMATION**

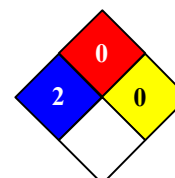
<b>Molybdovanadate Reagent</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
<b>Hydrochloric Acid, 37% w/w (7647-01-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
RQ (Reportable Quantity)	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
<b>Ammonium Metavanadate (7803-55-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the SARA Section 313 (Specific Toxic Chemical Listings)	
RQ (Reportable Quantity)	1000 lb
<b>Ammonium Molybdate Tetrahydrate (12054-85-2)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

**SECTION 16: OTHER INFORMATION**

Revision Date: 04/07/2015

**NFPA Hazards**

<b>Health Hazard</b>	2: Intense or prolonged exposure may cause incapacitation; residual injury may occur if not treated.
<b>Fire Hazard</b>	0: Materials that will not burn.
<b>Reactivity/Instability</b>	0: Stable



**HMIS III Rating**

<b>Health</b>	2: Temporary or minor injury may occur.
<b>Flammability</b>	0: Materials that will not burn.
<b>Physical Hazard</b>	0: Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.
<b>Personal Protection</b>	D

<b>M-65</b>	
Health	2
Flammability	0
Physical Hazard	0
Personal Protection	D

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**END OF SAFETY DATA SHEET**