




DOT Label(s)	GHS Pictogram(s)	HMIS	Personal Protective Equipment(s)
Non Regulated Materials	Irritant 	1 HEALTH 0 FLAMMABILITY 0 REACTIVITY B PROTECTIVE EQUIPMENT	 Safety Glasses  Gloves

1. PRODUCT AND COMPANY IDENTIFICATION


Product Name: #211- Molybdenum/Molybdate Buffer Solution

Product Use: A Mixture of Analytical Testing Reagent




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To the best of our knowledge, this Safety Data Sheet is prepared to comply with US OSHA 29 CFR 1910.1200 and other governmental agencies both domestic and foreign. Hazard and precautionary statements are based on maximum listed concentrations of each hazardous ingredient. Unlisted ingredients are not "hazardous" per the OSHA Hazard Communication Standard (29 CFR 1910.1200) and/or other governmental agencies.

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION/LABEL ELEMENTS**

Signal Word	GHS Pictogram(s)	Hazard Statements	Precautionary Statements
"WARNING"	Irritant 	H303-May be harmful if swallowed H316-Causes mild skin irritation. H320 -Causes eye irritation.	P102-Keep out of reach of children. P233-Keep container tightly closed. P262-Do not gets in eyes, on skin or on clothing. P264-Wash thoroughly after handling. P281-Use personal protective equipment as required.

3. PRODUCT INGREDIENTS

Hazardous Components	% by Wt.	CAS Number	Hazard Statements (Section 15)	GHS Hazard Pictogram(s)
Acetic Acid, Glacial	0-5	64-19-7	H226-Flammable liquid and vapor. H302-Harmful if swallowed. H314- Causes severe skin burns and eye damage. H332-Harmful if inhaled. H412-Harmful to aquatic life with long lasting effects.	 
Sodium Acetate	0-5	127-09-3	H303-May be harmful if swallowed H316-Causes mild skin irritation. H320 -Causes eye irritation.	
Non Hazardous Ingredient	90-100			
Total	100			

4. FIRST AID MEASURES

- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing difficult, give oxygen. Call a physician if any difficulties persist.
- Eyes:** Flush eyes with a large amount of water for 15 minutes. Seek medical attention immediately if any irritation persists. After first aid, get appropriate in-plant, paramedic or community medical support.
- Skin:** Wash affected areas thoroughly with soap and water for at least 15 minutes. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention if any irritation persists.
- Ingestion** If person can swallow, give 2 glasses of water to drink. DO NOT INDUCE VOMITING! After first aid, seek appropriate in-plant, paramedic, or community medical support. Never give anything by mouth to an unconscious person.

After first aid, get appropriate in-plant, paramedic, or community medical support.

5. FIRE FIGHTING MEASURES

- Flammability Classification:** Non Flammable
- Suitable Extinguishing Media:** Water fog, Alcohol foam, Carbon Dioxide, Dry Chemical
- Unusual Fire or Explosion Hazards:** None known other than material can splatter above 100°C/212°F.
- Hazardous Combustion Products:** Unknown but carbon monoxide may be released on burning.
- Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.
- Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Small Spills:	Absorb spill with paper towel or similar absorbent; or flush to sewer or ground with large amounts of water.
Large Spills:	For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways. Absorb spill with vermiculite, oil dry or similar non-reactant absorbent. Solidified product represents no environmental hazard.
Containment:	
Cleanup:	Accumulate the absorbed materials and dispose of according to federal, state and local regulations.
Environmental Precautions:	Follow applicable OSHA/CERCLA or any other regulations (29 CFR 1910.120) as well as any state or local regulations that may apply.

7. HANDLING AND STORAGE

Precautions for safe handling:	Use the recommended safety controls and personal protective equipment as outlined. Fully review all data before handling of the material itself. Avoid contact with skin or eyes. Avoid breathing dust or mist. Keep from contact with clothing and other combustible materials. Observe good personal hygiene and housekeeping practices. Wash thoroughly after handling.
Conditions for safe Storage:	Do not store in direct sunlight. Store in a tightly closed container. Store in a cool dry, well ventilated area. Do not store this material near any strong acids, bases, oxidizers, flammables or any other type of reactive material. Do not expose the material to temperature extremes.
Regulatory Requirements:	Store materials according to all local, state and federal guidelines that are established for non-regulated chemical products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with limit values that require monitoring at the workplace:**

Hazardous Components	CAS Number	OSHA PEL/TWA STEL	ACGIH TLV/TWA STEL	Other
Acetic Acid, Glacial	64-19-7	10ppm	10ppm	
Sodium Acetate	127-09-3	None Est.		

Engineering Controls:

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessel, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Personal Protective Equipment (PPE): Wear protective eyeglasses or chemical safety goggles, per OSHA eye-and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses. At a minimum wear safety glasses with side shields as well as chemically protective gloves and aprons to prevent prolonged or repeated skin contact.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Work/Hygienic Practices Consistent use of afore-mentioned personal protective equipment is essential in preventing injuries or irritation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid	Appearance:	Clear to yellowish	Odor:	Acetic Acid odor
pH:	3-5	Vapor Pressure:	Same as water	Flammability:	Non-flammable
Specific Gravity:	1.02 +/-	Vapor Density:	Same as water	Flash Point:	NA
Water Solubility:	Complete	Evaporation Rate:	1.00	Auto Ignition Temp:	NA
Other Solubilities:	Not Determined	Melting Point:	NA	LEL:	Not Determined
% Volatile:	95%+/-	Freeze Point:	Approx. 32°F+/-	UEL:	Not Determined
Boiling Point:	212°F +/-	Decomposition Temp:	Not Determined		

10. STABILITY AND REACTIVITY

Stability: This product is stable at room temperature in closed containers under normal storage and handling conditions. However, avoid temperature extremes.

Conditions to Avoid: Excessive temperature, contact with any type of reactive chemicals

Hazardous Polymerization: Hazardous polymerization will not occur.

Chemical Incompatibilities: Avoid contact with Strong Acids, Strong Alkalis, Oxidizers or any other type of reactive material.

Hazardous Decomposition Products: There are no known hazardous decomposition products for this material unless the material is burned in which case undetermined evolution of toxic gases may occur.

11. TOXICOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	LD50 of Ingredient (Specify Species & Route)	LD50 Dermal of Ingredient (Specify Species)
Acetic Acid, Glacial	64-19-7	3310mg/kg Oral Rat 1200mg/kg Oral Rabbit	1060mg/kg Rabbit LC50: 5620ppm 1 hour Mouse LC50: 11.4mg/l 4hour Rat
Sodium Acetate	127-09-3	3530mg/kg Oral Rat	10,000 mg/kg Rabbit LC50: > 30,000 mg/m3 1hr Rat


Primary Irritant Effects:

Routes of Entry:	Absorbed through skin, Dermal Contact, Eye Contact, Inhalation.
Eye Effects:	Irritation to eyes & possible burning if materials are not immediately rinsed from the eye.
Acute Inhalation Effects:	Might produce irritation to respiratory system.
Skin Effects:	Irritation to skin.
Acute Oral/Ingestion Effects:	Not tested for this blend. Harmful if swallowed.
Chronic Effects on Humans:	No specific studies have been conducted for this specific blend.
Other Toxic Effects on Humans:	No specific studies have been conducted for this specific blend.
Special Remarks- Human Chronic Effects:	No other information for chronic effects on humans.
Carcinogenicity:	IARC, NTP, and OSHA do not list this product or its components as a carcinogen.
Mutagenicity:	No mutagenic effects are known to be applicable for the formulation components of this product.
Teratogenicity:	No studies have been performed for this specific product blend.
Target Organ Statement:	No studies have been conducted for this specific product blend.

12. ECOLOGICAL INFORMATION			
Hazardous Components	CAS No.:	LC:50	EC:50
Acetic Acid, Glacial	64-19-7	75mg/ 96hour Blue Gill >1000mg/l 96hour Rainbow Trout	300.82mg/l 48 hour Daphnia Magna
Sodium Acetate	127-09-3	5,000 mg/l 24 hour Blue Gill 13,330mg/l 120 hour Fathead Minnow	> 1,000 mg/l 48 hour Daphnia Magna
Special Remarks-Products of biodegradation:	Product is biodegradable.		

13. WASTE DISPOSAL CONSIDERATIONS	
Disposal Regulatory Requirements:	Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable federal, state and local regulations.
Container Cleaning and Disposal:	Triple rinse the empty containers with water before disposal to reconditioned or land fill or garbage.

14. TRANSPORTATION INFORMATION					
Proper Shipping Name:	NON REGULATED MATERIALS				DOT Shipping Label(s):
Contains:					None
Hazard Class:	Marine Pollutant:	UN Number:	Packing Group:	ERG Number:	
Non Hazardous	No	NA	NA	NA	
Special Shipping Notations:	None				
Note: Transportation information provided is for reference only. Client is urged to consult CFR 49, Parts 100-177, IMDG, IATA, EU, United Nations, TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.					

15. REGULATORY INFORMATION	
Hazard Symbols:	
Hazard Statements:	H303-May be harmful if swallowed H316-Causes mild skin irritation. H320-Causes eye Irritation
Precautionary Statements:	P102+P103-Keep out of reach of children. Read label before use. P233+P234-Keep container tightly closed. Keep only in original container. P262-Do not get in eyes, on skin, or on clothing. P264-Wash thoroughly after handling. P270-Do not eat, drink or smoke when using this product. P281-Use personal protective equipment as required. P301+330+331- If swallowed, rinse mouth. Do not induce vomiting. P304+P341- IF inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338-IF in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present.

EPA Regulations:

RCRA Hazardous Waste Number:	Product blend is not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.):	Product blend is not classified.

CERCLA Hazardous Substance (40 CFR 302.4):	Product blend is unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307 (a),
CAA, Sec. 112 CERCLA Reportable Quantity (RQ):	Contains: Acetic Acid, Glacial 5,000 lb
SARA 313 Codes: This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.	Not listed
SARA Toxic Chemical (40CFR 372.65):	Not listed
Sara 302/304 Extremely Hazardous Substance (40CFR 355)	Not listed
Sara 313 SARA EHS (Extremely Hazardous Substance) (40 CFR 355):	Not listed
Threshold Planning Quantity (TPQ):	Not listed
OSHA Regulations:	
Air Contaminant (20 CFR 1910.1000, Table Z-1, Z-1-A):	Not listed.
OSHA Specifically Regulated Substance (29 CFR 1910.):	Not Listed
State Regulations:	As a product blend, the materials are generally not listed. Check with your local state regulatory board for more detailed information regarding the specific components of this product.
National Regulations:	All components of this product are listed in the U.S. Environmental Protection Agencies, Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

SDS Prepared/Reviewed By: G.S. Garcia-Technical Director
Date of Preparation: 3/1/2015

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

USER'S RESPONSIBILITY

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

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