

SAFETY DATA SHEET

Issue Date 28-Jan-2019 Revision Date 18-Aug-2019 Version 1.3

1. Identification

Product identifier

Product Name Molybdenum 2 Reagent for Low Range Molybdate

Other means of identification

Product Code(s) 2352532

Recommended use of the chemical and restrictions on use

Recommended Use Determination of molybdenum.

Restrictions on use For Laboratory Use Only.

Uses advised against Consumer use

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

Emergency telephone number

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazards identification

Classification

Serious eye damage/eye irritation	Category 2A - (H319)
Acute aquatic toxicity	Category 3 - (H402)
Chronic aquatic toxicity	Category 2 - (H411)

Label elements

Signal word - Warning

Hazard statements

H319 - Causes serious eye irritation

H402 - Harmful to aquatic life

H411 - Toxic to aquatic life with long lasting effects



Exclamation mark Environment

Precautionary statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P273 - Avoid release to the environment

P501 - Dispose of contents/ container to an approved waste disposal plant

P391 - Collect spillage

Other Hazards Known

Not applicable

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical Family Mixture.

Chemical nature Organic solvents and additives. aqueous solution.

Chemical name	CAS No.	Synonyms	Percent Range
Poly(oxy-1,2-ethanediyl),	9036-19-5	Igepal CA Triton X	1 - 5%
.alpha[(1,1,3,3-tetramethylbutyl)ph			
enyl]omegahydroxy-			
1-Hexadecanaminium,	57-09-0	No information available	<1%
N,N,N-trimethyl-, bromide			

4. First aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open

while rinsing. Do not rub affected area. Get medical attention if irritation develops and

persists.

Skin contact Wash skin with soap and water.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

5. Fire-fighting measures

surrounding environment.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products This material will not burn.

Explosion data

Sensitivity to mechanical impact None. Sensitivity to static discharge None.

Special protective actions for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout

gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid

Appearanceaqueous solutionColorcolorlessOdorNoneOdor thresholdNot applicable

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight Not applicable

pH 6.5

Melting point/freezing point 1 °C / 33.8 °F

Boiling point / boiling range 98 °C / 208.4 °F

Evaporation rate 0.71 (water = 1)

Vapor pressure No data available

Vapor density (air = 1) 0.62 (air = 1)

Specific gravity (water = 1 / air = 1) 1.00

Partition Coefficient (n-octanol/water) No data available

Soil Organic Carbon-Water Partition

Coefficient

No data available

Autoignition temperature No data available

Decomposition temperatureNo data available

Dynamic viscosity No data available

Kinematic viscosity

No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility_	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

	Chemical Name	Solubility classification	Solubility	Solubility Temperature
Г	Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity

Steel Corrosion Rate0.23 mm/yr / 0.01 in/yrAluminum Corrosion Rate0.03 mm/yr / 0 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Poly(oxy-1,2-ethanediyl), .alpha[(1,1,3,3-tetramethylbutyl)phen yl]omegahydroxy-	9036-19-5	Not applicable	-
1-Hexadecanaminium, N,N,N-trimethyl-, bromide	57-09-0	No data available	-

Explosive properties

Upper explosion limitNot applicableLower explosion limitNot applicable

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limitNo data availableLower flammability limitNo data available

Oxidizing properties No data available.

Bulk density Not applicable

10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of Hazardous Reactions None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid None known based on information supplied.

Incompatible materials None known based on information supplied.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. Toxicological information

Information on Likely Routes of Exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Causes serious eye irritation. May cause redness, itching, and pain.

Skin contact May cause irritation. Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Poly(oxy-1,2-ethaned	Rat	1700 mg/kg	None	None reported	Japan National Institute of
iyl),	LD50		reported		Technology and Evaluation
.alpha[(1,1,3,3-tetra					(NITE)
methylbutyl)phenyl]					

omegahydroxy- (1 - 5%) CAS#: 9036-19-5					
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Rat LD ₅₀	410 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity.

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	68,567.00
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

May cause skin irritation.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	Existing human experience	Human	None reported	None reported	Not corrosive or irritating to skin	Vendor SDS
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Patch test	Rabbit	500 mg	None reported	Skin irritant	ECHA (The European Chemicals Agency)

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	Test	Rabbit	100 mg	72 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Standard Draize Test	Rabbit	450 mg	None reported	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

Based on available data, the classification criteria are not met.

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Poly(oxy-1,2-ethanediyl),	9036-19-5	-	-	-	-
.alpha[(1,1,3,3-tetrameth					
ylbutyl)phenyl]omegahy					
droxy-					
1-Hexadecanaminium,	57-09-0	-	-	-	-
N,N,N-trimethyl-, bromide					

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Does not apply

Does not apply

Does not apply

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Chemical name	Test	Cell Strain	Reported	Exposure	Results	Key literature
			dose	time		references and
						sources for data
Poly(oxy-1,2-ethaned	DNA inhibition	Human	5 mg/L	None	Positive test result for	
iyl),		lymphocyte		reported	mutagenicity	of Toxic Effects of
.alpha[(1,1,3,3-tetra						Chemical
methylbutyl)phenyl]						Substances)
omegahydroxy-						
(1 - 5%)						
CAS#: 9036-19-5						

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	·	Rat	10200 mg/kg	None reported	Positive test result for mutagenicity	

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Harmful to aquatic life.

Unknown aquatic toxicity 0% of the mixture consists of components(s) of unknown hazards to the aquatic

environment.

Product Ecological Data

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	96 hours	Lepomis macrochirus	LC50	>= 10 mg/L	Vendor SDS
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	96 hours	Danio rerio	LC50	0.3 mg/L	PEEN (Pan European Ecological Network)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	48 Hours	Daphnia magna	EC50	>= 18 mg/L	ERMA (New Zealands Environmental Risk Management Authority)
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	48 Hours	Daphnia magna	EC50	0.03 mg/L	PEEN (Pan European Ecological Network)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[(1,1,3,3-tetra methylbutyl)phenyl] omegahydroxy- (1 - 5%) CAS#: 9036-19-5	96 hours	Selenastrum sp.	EC50	0.21 mg/L	Vendor SDS
1-Hexadecanaminiu m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	96 hours	Microcystis aeruginosa	EC50	0.06 mg/L	PEEN (Pan European Ecological Network)

Aquatic Chronic Toxicity

No data available.

Γ	Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
		time		type	dose	sources for data

Poly(oxy-1,2-ethaned	7 days	Oncorhynchus mykiss	NOEC	0.004 mg/L	EPA (United States
iyl),					Environmental Protection
.alpha[(1,1,3,3-tetra					Agency)
methylbutyl)phenyl]					
omegahydroxy-					
(1 - 5%)					
CAS#: 9036-19-5					

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects

Contains a substance with an endocrine-disrupting potential.

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Poly(oxy-1,2-ethanediyl), .alpha[(1,1,3,3-tetramethylbutyl)phen yl]omegahydroxy- (1 - 5%) CAS#: 9036-19-5	Group III Chemical	-	-

13. Disposal considerations

Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transportation information

MEX

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class 9
Packing Group III

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol ethoxylate,

1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III

Note: No special precautions necessary.

TDG

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class

•••••

Packing Group

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol ethoxylate,

1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III

DOT

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class 9
Packing Group III

Special Provisions 8, 146, 173, 335, IB3, T4, TP1, TP29

Emergency Response Guide 171

Number

ICAO (air)

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class 9
Packing Group III

Special Provisions A97, A158

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol ethoxylate,

1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III

<u>IATA</u>

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class9Packing GroupIIIERG Code9L

Special precautions for user A97, A158

IMDG

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class 9
Packing Group III
EmS-No F-A, S-F
Special precautions for user 274, 335

Marine pollutant This material meets the definition of a marine pollutant

RID

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class9Packing GroupIIIClassification codeM6

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol

ethoxylate,1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III

ADR

UN/ID no UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class9Packing GroupIIIClassification codeM6Tunnel restriction code(E)

Special precautions for user 274, 335, 601

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol

ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III, (E)

Labels 9

ADN

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Hazard Class9Packing GroupIIIClassification codeM6

Special Provisions 274, 335, 601

Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (Octylphenol

ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide), 9, III

Hazard label(s) 9 Limited quantity (LQ) 5 L

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. Regulatory information

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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

Complies. **TSCA DSL/NDSL** Complies. **EINECS/ELINCS** Complies. Complies. **ENCS IECSC** Complies. **KECL** Complies. **PICCS** Complies. **AICS** Complies.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

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

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

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

16. Other information

NFPA Health hazards 2 Flammability 0 Instability 0 Physical and chemical

properties -

Health hazards 2 Flammability 0 Physical hazards 0 Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value SKN* Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development High Production volume Chemicals Progra

Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Prepared By Hach Product Compliance Department.

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Revision Note None

NOM-018-STPS-2015

The information is believed to be accurate, but it is not exhaustive and must be used only as guidance. It is based on the current state of knowledge of the chemical substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

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End of Safety Data Sheet