



Be Right™

# SAFETY DATA SHEET

Issue Date 28-01-2019

Revision Date 26-Jan-2024

Version 6.5

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Molybdenum 2 Reagent for Low Range Molybdate

### Other means of identification

**Product Code(s)** 2352523

**Safety data sheet number** M00342

**UN/ID no** UN3082

### Recommended use of the chemical and restrictions on use

**Recommended Use** Water Analysis. Determination of molybdenum.

**Uses advised against** Consumer use.

**Restrictions on use** For Laboratory Use Only.

### 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**

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

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 2

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

#### **Signal word**

Warning



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#### Hazard statements

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

#### Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and 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 attention

P273 - Avoid release to the environment

P391 - Collect spillage

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

#### Other Hazards Known

Harmful to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### Mixture

##### Chemical Family

Mixture.

##### Chemical nature

Organic solvents and additives, aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	9036-19-5	1 - 5%	-
1-Hexadecanaminium, N,N,N-trimethyl-, bromide	57-09-0	<1%	-

### 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.

#### Most important symptoms and effects, both acute and delayed

##### Symptoms

Burning sensation.

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**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the 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.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. ACCIDENTAL RELEASE MEASURES**

**U.S. Notice** Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

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

**Reference to other sections** See section 8 for more information. See section 13 for more information.

**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**

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

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** 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

**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. Wear breathing apparatus if exposed to vapors/dusts/aerosols.

**Hand Protection** Wear suitable gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016. Barrier creams may help to protect the exposed areas of skin.

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

**Skin and body protection** Wear suitable protective clothing.

**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.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Color</b>	colorless
<b>Appearance</b>	aqueous solution	<b>Odor threshold</b>	Not applicable
<b>Odor</b>	Odorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	Not applicable	
<b>pH</b>	6.5	@ 20 °C
<b>Melting point / freezing point</b>	1 °C / 33.8 °F	
<b>Initial boiling point and boiling range</b>	98 °C / 208.4 °F	

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Evaporation rate 0.71 (water = 1)  
Vapor pressure No data available  
Relative vapor density 0.62  
Specific gravity - VALUE 1 1.00  
Partition coefficient No data available  
Soil Organic Carbon-Water Partition Coefficient No data available  
Autoignition temperature No data available  
Decomposition temperature No 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
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other information**

**Metal Corrosivity**

Steel Corrosion Rate 0.23 mm/yr / 0.01 in/yr  
Aluminum Corrosion Rate 0.03 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)phenyl]-.omega.-hydroxy-	9036-19-5	Not applicable	-
1-Hexadecanaminium, N,N,N-trimethyl-, bromide	57-09-0	No data available	-

**Explosive properties**

Upper explosion limit Not applicable  
Lower explosion limit Not applicable

**Flammable properties**

Flash point No data available

**Flammability Limit in Air**

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**Upper flammability limit:**

No data available

**Lower flammability limit:**

No data available

**Oxidizing properties**

No data available.

**Bulk density**

Not applicable

## 10. STABILITY AND REACTIVITY

### Reactivity

Not applicable.

### Chemical stability

Stable under normal conditions.

### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### 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

Strong oxidizing agents, strong acids, and strong bases.

### 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

### Mixture

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 iyl), .alpha.-[(1,1,3,3-tetra methylbutyl)phenyl]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	Rat LD <sub>50</sub>	1700 mg/kg	None reported	None reported	NITE
1-Hexadecanaminium, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Rat LD <sub>50</sub>	410 mg/kg	None reported	None reported	GESTIS

**Unknown Acute Toxicity**

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

**Acute Toxicity Estimations (ATE)**

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

<b>ATEmix (oral)</b>	No information available mg/kg
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Skin corrosion/irritation**

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

**Mixture**

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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	Existing human experience	Human	None reported	None reported	Not corrosive or irritating to skin	Vendor SDS
1-Hexadecanaminium, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Patch test	Rabbit	500 mg	None reported	Skin irritant	ECHA

**Serious eye damage/irritation**

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

**Mixture**

No data available.

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**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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	Standard Draize Test	Rabbit	100 mg	72 hours	Corrosive to eyes	RTECS
1-Hexadecanaminium m, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	Standard Draize Test	Rabbit	450 mg	None reported	Eye irritant	RTECS

**Respiratory or skin sensitization**

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

**Mixture**

No data available.

**Ingredient Sensitization Data**

No data available.

**STOT - single exposure**

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

**Mixture**

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.

**Mixture**

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.

**Mixture**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	9036-19-5	-	-	-	-
1-Hexadecanaminium,	57-09-0	-	-	-	-



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N,N,N-trimethyl-, bromide				
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**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

**Germ cell mutagenicity**

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

**Mixture invitro Data**

No data available.

**Substance invitro Data**

No data available.

Chemical name	Test	Cell Strain	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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	DNA inhibition	Human lymphocyte	5 mg/L	None reported	Positive test result for mutagenicity	RTECS

**Mixture invivo Data**

No data available.

**Substance 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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	None reported	Rat	10200 mg/kg	None reported	Positive test result for mutagenicity	Vendor SDS

**Reproductive toxicity**

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

**Mixture**

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.

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**Unknown aquatic toxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

**Mixture**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Substance**

**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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	>= 10 mg/L	Vendor SDS
1-Hexadecanaminium, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	96 hours	<i>Danio rerio</i>	LC <sub>50</sub>	0.3 mg/L	PEEN
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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	>= 18 mg/L	ERMA
1-Hexadecanaminium, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	0.03 mg/L	PEEN
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]-. omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	96 hours	<i>Selenastrum sp.</i>	EC <sub>50</sub>	0.21 mg/L	Vendor SDS
1-Hexadecanaminium, N,N,N-trimethyl-, bromide (<1%) CAS#: 57-09-0	96 hours	<i>Microcystis aeruginosa</i>	EC <sub>50</sub>	0.06 mg/L	PEEN

**Aquatic Chronic Toxicity**

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No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Poly(oxy-1,2-ethaned yl), .alpha.-[(1,1,3,3-tetra methylbutyl)phenyl]- omega.-hydroxy- (1 - 5%) CAS#: 9036-19-5	7 days	<i>Oncorhynchus mykiss</i>	NOEC	0.004 mg/L	EPA

#### **Persistence and degradability**

##### **Mixture**

No data available.

##### **Mixture**

No data available.

##### **Partition coefficient**

No data available

##### **Mobility**

##### **Soil Organic Carbon-Water Partition Coefficient**

No data available

##### **Other adverse effects**

No information available

**Endocrine Disruptor Information** Contains a known or suspected endocrine disruptor

### **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.

##### **US EPA Waste Number**

Not applicable

##### **Special instructions for disposal**

If permitted by regulation. Dilute to 3 to 5 times the volume with cold water. Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Dispose of material in an E.P.A. approved hazardous waste facility.

### **14. TRANSPORT INFORMATION**

#### **DOT**

UN/ID no

UN3082

Proper shipping name

Environmentally hazardous substance, liquid, n.o.s.

DOT Technical Name

Octylphenol ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide

Transport hazard class(es)

9

Packing Group

III

Emergency Response Guide Number

171

#### **TDG**

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<b>UN/ID no</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>TDG Technical Name</b>	Octylphenol ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide
<b>Transport hazard class(es)</b>	9
<b>Packing Group</b>	III

**IATA**

<b>UN number or ID number</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>IATA Technical Name</b>	Octylphenol ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide
<b>Transport hazard class(es)</b>	9
<b>Packing group</b>	III
<b>ERG Code</b>	9L
<b>Special Provisions</b>	A97, A158

**IMDG**

<b>UN number or ID number</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>IMDG Technical Name</b>	Octylphenol ethoxylate, 1-Hexadecanaminium, N,N,N-trimethyl-, bromide
<b>Transport hazard class(es)</b>	9
<b>Packing Group</b>	III
<b>EmS-No</b>	F-A, S-F
<b>Special Provisions</b>	274, 335
<b>Marine pollutant</b>	This material meets the definition of a marine pollutant

**Note:** No special precautions necessary.

**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**

**National Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**International Inventories**

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**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  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances

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**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

**IMERC:** Not applicable

**U.S. State Right-to-Know Regulations**

This product may contain substances regulated by state right-to-know regulations.

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega -hydroxy-	180.0940	-
1-Hexadecanaminium, N,N,N-trimethyl-, bromide	180.0519	-

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**Special Comments**

None

**Additional information**

**Global Automotive Declarable Substance List (GADSL)**

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
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Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega -hydroxy- 9036-19-5	Declarable Substance (LR) Prohibited Substance (LR)	0.1 %
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**NFPA and HMIS Classifications**

<b>NFPA</b>	<b>Health hazards - 2</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and chemical properties -</b>
<b>HMIS</b>	<b>Health hazards - 2</b>	<b>Flammability - 0</b>	<b>Physical hazards - 0</b>	<b>Personal protection -</b> X - 1

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

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these

**Product Code(s)** 2352523

**Product Name** Molybdenum 2 Reagent for Low Range  
Molybdate

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**Revision Date** 26-Jan-2024

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"liberated" exposure limits in their state regulations.

SKN\* Skin designation  
RSP+ Respiratory sensitization  
C Carcinogen  
M mutagen

SKN+ Skin sensitization  
\*\* Hazard Designation  
R Reproductive toxicant

**Prepared By** Hach Product Compliance Department

**Issue Date** 28-01-2019

**Revision Date** 26-Jan-2024

**Revision Note** SDS sections updated  
2

**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.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

**HACH COMPANY©2023**

**End of Safety Data Sheet**



**Be Right™**

# SAFETY DATA SHEET

Issue Date 15-Mar-2021

Revision Date 26-Jan-2024

Version 4.4

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** Molybdenum 1 Reagent

**Other means of identification**

**Product Code(s)** 2359299

**Safety data sheet number** M00125

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Water Analysis. Determination of molybdenum.

**Uses advised against** Consumer use.

**Restrictions on use** For Laboratory Use Only.

**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**

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

## 2. HAZARDS IDENTIFICATION

**Classification**

**Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

None

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Hazards Known**

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS



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**Substance**

Not applicable

**Mixture**

**Chemical Family** Mixture.  
**Chemical nature** Mixture of organic compounds.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
L-Ascorbic acid	50-81-7	30 - 40%	-
Sodium hypochlorite	7681-52-9	<0.1%	-

#### 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See Section 11 for additional Toxicological Information.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the 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** Potassium oxides. Carbon monoxide, Carbon dioxide.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

#### 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice** Only persons properly qualified to respond to an emergency involving hazardous

substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

#### **Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation.

#### **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** Take up mechanically, placing in appropriate containers for disposal.

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

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## **7. HANDLING AND STORAGE**

#### **Precautions for safe handling**

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

#### **Conditions for safe storage, including any incompatibilities**

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

**Flammability class** Not applicable

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **Control parameters**

**Exposure Guidelines** 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**

**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.

**Hand Protection** Wear suitable gloves.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** No special protective equipment required.

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**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical state** Solid  
**Appearance** powder  
**Color** light brown  
**Odor** Odorless  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	3.6	1.6% Solution
<b>Melting point / freezing point</b>	146 °C / 294.8 °F	
<b>Initial boiling point and boiling range</b>	No data available	
<b>Evaporation rate</b>	Not applicable	
<b>Vapor pressure</b>	Not applicable	
<b>Relative vapor density</b>	No data available	
<b>Specific gravity - VALUE 1</b>	1.64	
<b>Partition coefficient</b>	log K <sub>ow</sub> ~ -2.37	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	log K <sub>oc</sub> ~ 0.73	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No information available	
<b>Dynamic viscosity</b>	Not applicable	
<b>Kinematic viscosity</b>	Not applicable	

### Solubility(ies)

#### Water solubility

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

#### Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

### Other information

#### Metal Corrosivity

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**Steel Corrosion Rate**  
**Aluminum Corrosion Rate**

2.08 mm/yr / 0.08 in/yr  
0.05 mm/yr / 0 in/yr

**Volatile Organic Compounds (VOC) Content**  
Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
L-Ascorbic acid	50-81-7	No data available	-
Sodium hypochlorite	7681-52-9	Not applicable	-

**Explosive properties**

**Upper explosion limit** No data available  
**Lower explosion limit** No data available

**Flammable properties**

**Flash point** Not applicable

**Flammability Limit in Air**

**Upper flammability limit:** No data available  
**Lower flammability limit:** No data available

**Oxidizing properties**

No data available.

**Bulk density**

No data available

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not applicable.

**Chemical stability**

Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None.  
**Sensitivity to Static Discharge** None.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous polymerization**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

Strong oxidizing agents, strong acids, and strong bases.

**Hazardous decomposition products**

Potassium oxide. Carbon monoxide. Carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**

**Inhalation** No known effect based on information supplied.  
**Eye contact** No known effect based on information supplied.  
**Skin contact** No known effect based on information supplied.  
**Ingestion** No known effect based on information supplied.

**Symptoms** No information available.

**Acute toxicity**

Based on available data, the classification criteria are not met

**Mixture**

No data available.

**Ingredient Acute Toxicity Data**

No data available.

**Unknown Acute Toxicity**

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

**Acute Toxicity Estimations (ATE)**

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

<b>ATEmix (oral)</b>	No information available
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Skin corrosion/irritation**

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

**Mixture**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

No data available.

**Serious eye damage/irritation**

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

**Mixture**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

No data available.

**Respiratory or skin sensitization**

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

**Mixture**

No data available.

### Ingredient Sensitization Data

Test data reported below.

#### Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA

#### STOT - single exposure

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

#### Mixture

No data available.

### Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

#### Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	Human TD <sub>Lo</sub>	1000 mg/kg	None reported	<b>Behavioral</b> Somnolence (general depressed activity) <b>Vascular</b> BP lowering not characterized in autonomic section <b>Skin and Appendages</b> Corrosive to skin after topical application	RTECS

#### STOT - repeated exposure

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

#### Mixture

No data available.

### Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

#### Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	Rat TD <sub>Lo</sub>	140 mg/kg	63 days	<b>Endocrine</b> Changes in spleen weight <b>Immunological Including Allergic</b> Decrease in cellular immune response <b>Biochemical</b> Intermediary metabolism (lipids including transport)	RTECS

#### Carcinogenicity

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

**Mixture**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
L-Ascorbic acid	50-81-7	-	-	-	-
Sodium hypochlorite	7681-52-9	-	Group 3	-	-

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Does not apply
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA</b>	Does not apply

**Germ cell mutagenicity**

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

**Mixture invitro Data**

No data available.

**Substance invitro Data**

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
L-Ascorbic acid (30 - 40%) CAS#: 50-81-7	DNA damage	Human fibroblast	0.2 mmol/L	None reported	Positive test result for mutagenicity	RTECS
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	Cytogenetic analysis	Human lymphocyte	100 mg/L	24 hours	Positive test result for mutagenicity	RTECS

**Mixture invivo Data**

No data available.

**Substance invivo Data**

No data available.

**Reproductive toxicity**

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

**Mixture**

No data available.

**Ingredient Reproductive Toxicity Data**

Test data reported below.

**Oral Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
L-Ascorbic acid (30 - 40%) CAS#: 50-81-7	Guinea pig TD <sub>Lo</sub>	19500 mg/kg	28 days	None reported	RTECS
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	Rat NOAEL	>= 5 mg/kg	Single generation	No reproductive or developmental toxic effects observed	ECHA

**Aspiration hazard**

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

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

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

**Unknown aquatic toxicity**

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

**Mixture**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Substance**

**Aquatic Acute Toxicity**

Test data reported below.

**Fish**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
L-Ascorbic acid (30 - 40%) CAS#: 50-81-7	96 hours	None reported	LC <sub>50</sub>	44200 mg/L	ECOSARS
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	96 hours	<i>Clupea pallasii</i>	LC <sub>50</sub>	0.065 mg/L	Vendor SDS

**Crustacea**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
L-Ascorbic acid (30 - 40%) CAS#: 50-81-7	48 Hours	None reported	LC <sub>50</sub>	17500 mg/L	ECOSARS
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	0.032 mg/L	Vendor SDS

**Algae**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
L-Ascorbic acid (30 - 40%) CAS#: 50-81-7	96 hours	None reported	EC <sub>50</sub>	29675 mg/L	ECOSARS
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	72 Hours	<i>Pseudokirchnerella subcapitata</i>	EC <sub>50</sub>	0.05 mg/L	ECHA

**Aquatic Chronic Toxicity**

Test data reported below.

**Fish**



Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	28 days	<i>Menidia peninsulae</i>	NOEC	0.04 mg/L	ECHA

#### Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	15 days	<i>Crassostrea virginica</i>	NOEC	0.007 mg/L	ECHA

#### Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hypochlorite (<0.1%) CAS#: 7681-52-9	7 days	None reported	NOEC	0.0021 mg/L	ECHA

#### Persistence and degradability

##### Mixture

No data available.

##### Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

##### Mixture

No data available.

##### Partition coefficient

log  $K_{ow}$  ~ -2.37

##### Mobility

##### Soil Organic Carbon-Water Partition Coefficient

log  $K_{oc}$  ~ 0.73

##### Other adverse effects

No information available

### 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.

##### US EPA Waste Number

No information available

##### Special instructions for disposal

Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

### 14. TRANSPORT INFORMATION

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**DOT** Not regulated  
**TDG** Not regulated  
**IATA** Not regulated  
**IMDG** Not regulated

**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**

**National Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Does not comply  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Does not comply  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

**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  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb	-	-	X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

**U.S. State Right-to-Know Regulations**

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium hypochlorite 7681-52-9	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
L-Ascorbic acid	180.0950	21 CFR 182.3013,21 CFR 182.8013
Sodium hypochlorite	180.0940	-

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

**Special Comments**

None

**Additional information**

**Global Automotive Declarable Substance List (GADSL)**

Not applicable

**NFPA and HMIS Classifications**

<b>NFPA</b>	<b>Health hazards - 0</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and chemical properties -</b>
<b>HMIS</b>	<b>Health hazards - 0</b>	<b>Flammability - 0</b>	<b>Physical hazards - 0</b>	<b>Personal protection -</b> X -1

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

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)  
 ATSDR ATSDR (Agency for Toxic Substances and Disease Registry)  
 CCRIS CCRIS (Chemical Carcinogenesis Research Information System)

CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

<b>Prepared By</b>	Hach Product Compliance Department
<b>Issue Date</b>	15-Mar-2021
<b>Revision Date</b>	26-Jan-2024
<b>Revision Note</b>	None

**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**