



Be Right™

SAFETY DATA SHEET

Issue Date 31-Mar-2021

Revision Date 26-Jan-2024

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1. IDENTIFICATION

Product identifier

Product Name Molybdenum Reference Standard Solution 1000 ± 10 mg/L as Mo⁶⁺

Other means of identification

Product Code(s) 1418642

Safety data sheet number M01435

Recommended use of the chemical and restrictions on use

Recommended Use Standard solution. Water Analysis.

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

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance

Not applicable

Mixture

Chemical Family

Mixture.

Chemical nature

Aqueous alkaline solution of organic and inorganic salts.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Ammonium chloride	12125-02-9	<1%	-
Ammonium hydroxide	1336-21-6	<1%	-
Ammonium nitrate	6484-52-2	<1%	-
Molybdate (MoO ₄ ²⁻), dihydrogen, (T-4)-	7782-91-4	<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

No information available.

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 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.

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

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Ammonium chloride CAS#: 12125-02-9	STEL: 20 mg/m ³ fume TWA: 10 mg/m ³ fume	(vacated) TWA: 10 mg/m ³ (vacated) STEL: 20 mg/m ³	TWA: 10 mg/m ³ fume STEL: 20 mg/m ³ fume
Molybdate (MoO ₄ ²⁻), dihydrogen, (T-4)- CAS#: 7782-91-4	TWA: 0.5 mg/m ³ Mo respirable particulate matter	TWA: 5 mg/m ³ (vacated) TWA: 5 mg/m ³	IDLH: 1000 mg/m ³ Mo

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems. Technical measures and appropriate working operations should be

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given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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. Ensure adequate ventilation.
Hand Protection	Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. 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.
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	No special protective equipment required. Avoid contact with eyes, skin and clothing.
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	Liquid
Appearance	aqueous solution
Color	colorless
Odor	Odorless
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	9.0	@ 20 °C
Melting point / freezing point	~ 0 °C / 32 °F	
Initial boiling point and boiling range	~ 100 °C / 212 °F	
Evaporation rate	1 (water = 1)	
Vapor pressure	23.627 mm Hg / 3.15 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.0	
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	

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Kinematic viscosity No data available

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	> 10000 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

No data available

Aluminum Corrosion Rate

No data available

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Ammonium chloride	12125-02-9	No data available	-
Ammonium hydroxide	1336-21-6	No data available	-
Ammonium nitrate	6484-52-2	No data available	-
Molybdate (MoO ₄ ²⁻), dihydrogen, (T-4)-	7782-91-4	Not applicable	-

Explosive properties

Upper explosion limit

Not applicable

Lower explosion limit

Not applicable

Flammable properties

Flash point

No data available

Flammability Limit in Air

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.

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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

None known based on information supplied.

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

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride (<1%) CAS#: 12125-02-9	Rat LD ₅₀	1650 mg/kg	None reported	None reported	IUCLID
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Rat LD ₅₀	350 mg/kg	None reported	None reported	Vendor SDS
Ammonium nitrate (<1%) CAS#: 6484-52-2	Rat LD ₅₀	2217 mg/kg	None reported	None reported	ERMA

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Molybdate (MoO ₄ ²⁻), dihydrogen, (T-4)- (<1%) CAS#: 7782-91-4	Rat LD ₅₀	2689 mg/kg	None reported	None reported	Vendor SDS
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Dermal Exposure Route

Unknown Acute Toxicity

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

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
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

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

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ammonium chloride (<1%) CAS#: 12125-02-9	Existing human experience	Human	None reported	None reported	Mild skin irritant	RTECS
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB

Serious eye damage/irritation

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

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Standard Draize Test	Rabbit	0.044 mg	None reported	Corrosive to eyes	RTECS

Respiratory or skin sensitization

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

Mixture

No data available.

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Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Ammonium chloride (<1%) CAS#: 12125-02-9	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

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
Ammonium chloride (<1%) CAS#: 12125-02-9	Domestic mammal - Not specified LD _{Lo}	1500 mg/kg	None reported	None reported	RTECS
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Human LD _{Lo}	43 mg/kg	None reported	None reported	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Human TC _{Lo}	408 mg/L	None reported	Lungs, Thorax, or Respiration Fibrosis, focal (pneumoconiosis) Acute pulmonary edema	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
Ammonium chloride (<1%) CAS#: 12125-02-9	Rat TD _{Lo}	3500 mg/kg	7 days	No toxicological effects observed	RTECS

Carcinogenicity

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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
Ammonium chloride	12125-02-9	-	-	-	-
Ammonium hydroxide	1336-21-6	-	-	-	-
Ammonium nitrate	6484-52-2	-	Group 2A	-	X
Molybdate (MoO ₄ ²⁻), dihydrogen, (T-4)-	7782-91-4	A3	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Group 2A - Probably Carcinogenic to Humans Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

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
Ammonium chloride (<1%) CAS#: 12125-02-9	OECD 471	<i>Salmonella typhimurium</i>	5 mg/plate	72 hours	Negative	RTECS
Ammonium hydroxide (<1%) CAS#: 1336-21-6	Mutation in microorganisms	<i>Salmonella typhimurium</i>	10 mg/disc	None reported	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

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Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ammonium chloride (<1%) CAS#: 12125-02-9	Rat NOAEL	1500 mg/kg	16 days	None reported	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
Ammonium chloride (<1%) CAS#: 12125-02-9	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	42.91 mg/L	ECHA
Ammonium hydroxide (<1%) CAS#: 1336-21-6	96 hours	<i>Oncorhynchus kisutch</i>	LC ₅₀	0.45 mg/L	PEEN

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ammonium chloride (<1%) CAS#: 12125-02-9	48 Hours	<i>Daphnia magna</i>	LC ₅₀	161 mg/L	IUCLID
Ammonium hydroxide (<1%) CAS#: 1336-21-6	48 Hours	<i>Daphnia magna</i>	LC ₅₀	0.66 mg/L	PEEN

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Bioaccumulation

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MATERIAL DOES NOT BIOACCUMULATE

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

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

Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

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

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

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ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
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

Chemical name	SARA 313 - Threshold Values %
Ammonium chloride (CAS #: 12125-02-9)	1.0
Ammonium hydroxide (CAS #: 1336-21-6)	1.0
Ammonium nitrate (CAS #: 6484-52-2)	1.0

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	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
Ammonium chloride 12125-02-9	5000 lb	-	-	X
Ammonium hydroxide 1336-21-6	1000 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)
Ammonium chloride 12125-02-9	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
Ammonium hydroxide 1336-21-6	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues

Chemical name	U.S. - Department of Homeland Security - Chemical Facility
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	Anti-Terrorism Standards (CFATS) - Security Issues
Ammonium nitrate (<1%) CAS#: 6484-52-2	Theft - Explosives/Improvised Explosive Device Precursors (with >0.2% combustible substances, including any organic substance calculated as Carbon, to the exclusion of any other added substance); Release - Explosive (with >0.2% combustible substances, including any organic substance calculated as Carbon, to the exclusion of any other added substance); Theft - Explosives/Improvised Explosive Device Precursors (solid, Nitrogen concentration >=23%)

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
Ammonium chloride 12125-02-9	X	X	X
Ammonium hydroxide 1336-21-6	X	X	X
Ammonium nitrate 6484-52-2	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Ammonium chloride	180.0920	21 CFR 184.1138
Ammonium hydroxide	180.0910	21 CFR 184.1139
Ammonium nitrate	180.0920	-

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
Ammonium nitrate 6484-52-2	Declarable Substance (FI)	0.1 %

NFPA and HMIS Classifications

NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 0	Flammability - 0	Physical hazards - 0	Personal protection - X

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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		

Prepared By Hach Product Compliance Department

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Revision Note 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.

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.

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End of Safety Data Sheet