

# SAFETY DATA SHEET

**Issue Date** 01-Mar-2021 **Revision Date** 26-Jan-2024 **Version** 7.1 **Page** 1 / 14

### 1. IDENTIFICATION

**Product identifier** 

Product Name Low Range Chlorine Standard Solution Ampule 25 - 30 mg/L as Cl<sub>2</sub>

Other means of identification

Product Code(s) 2630020

Safety data sheet number M01207

Recommended use of the chemical and restrictions on use

Recommended Use Standard solution.
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

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**Mixture** 

Chemical Family Mixture.

Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Sodium hypochlorite	7681-52-9	<0.01%	-
Potassium hydroxide	1310-58-3	<0.01%	-

## 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

### 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.

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

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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

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**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
Potassium hydroxide CAS#: 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

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.

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**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.

**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** clear Color colorless Odor Odorless Odor threshold Not applicable

**Property** Values Remarks • Method

Molecular weight No data available

10.5 @ 20 °C pН

Melting point / freezing point 0 °C / 32 °F

100 °C / 212 °F Initial boiling point and boiling range

**Evaporation rate** 1 (water = 1)

24.002 mm Hg / 3.2 kPa at 25 °C / 77 °F Vapor pressure

0.62 Relative vapor density

Specific gravity - VALUE 1 0.999

**Partition coefficient** No data available

**Soil Organic Carbon-Water Partition** 

Coefficient

No data available

No data available **Autoignition temperature** 

**Decomposition temperature** No data available

Dynamic viscosity 1 cP (mPa s) at 20 °C / 68 °F

1.001 cSt (mm2/s) at 20 °C / 68 °F Kinematic viscosity

Solubility(ies)

Water solubility

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

#### Solubility in other solvents

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Chemical Name	<u>Chemical Name</u> <u>Solubility classification</u> <u>So</u>		Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Most Polar Organic Solvents	Soluble	> 1000 mg/L	25 °C / 77 °F

### **Other information**

**Metal Corrosivity** 

Steel Corrosion Rate 0.18 mm/yr / 0.01 in/yr
Aluminum Corrosion Rate 0 mm/yr / 0 in/yr

**Volatile Organic Compounds (VOC) Content** 

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium hypochlorite	7681-52-9	Not applicable	-
Potassium hydroxide	1310-58-3	No data available	-

### **Explosive properties**

Upper explosion limitNo data availableLower explosion limitNo data available

### Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data availableOxidizing propertiesNo 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**

Hazardous polymerization does not occur.

### Conditions to avoid

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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** 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
Potassium hydroxide	Rat	333 mg/kg	None reported	None reported	Vendor SDS
(<0.01%)	LD <sub>50</sub>				
CAS#: 1310-58-3					

### **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

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Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (<0.01%) CAS#: 1310-58-3	Standard Draize Test	Human	50 mg	24 hours	Corrosive to skin	RTECS

### 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
Potassium hydroxide (<0.01%) CAS#: 1310-58-3	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA

### 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 (<0.01%) CAS#: 7681-52-9	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA
Potassium hydroxide (<0.01%) CAS#: 1310-58-3	Intracuteaneus Test	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

### 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	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Sodium hypochlorite	Human	1000 mg/kg	None reported	Behavioral	RTECS
(<0.01%)	TDLo			Somnolence (general depressed	

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CAS#: 7681-52-9	activity)
	Vascular
	BP lowering not characterized in
	autonomic section
	Skin and Appendages
	Corrosive to skin after topical
	application

**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	Rat	140 mg/kg	63 days	Endocrine	RTECS
(<0.01%)	TDLo			Changes in spleen weight	
CAS#: 7681-52-9				Immunological Including	
				Allergic	
				Decrease in cellular immune	
				response	
				Biochemical	
				Intermediary metabolism (lipids	
				including transport)	

### 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
Sodium hypochlorite	7681-52-9	-	Group 3	-	-
Potassium hydroxide	1310-58-3	-	-	-	-

### 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

Test data reported below.

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Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium hypochlorite (<0.01%) CAS#: 7681-52-9	Cytogenetic analysis	Human lymphocyte	100 mg/L	24 hours	Positive test result for mutagenicity	RTECS
Potassium hydroxide (<0.01%) CAS#: 1310-58-3	Cytogenetic analysis	Rat ascites tumor	1800 mg/kg	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**

Chemical name	Endpoint	Reported	Exposure Toxicological effects		Key literature references and
	type	dose	time		sources for data
Sodium hypochlorite (<0.01%)	Rat NOAEL	>= 5 mg/kg	Single	No reproductive or developmental toxic effects	ECHA
CAS#: 7681-52-9	NOAEL		generation	observed	

**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	Species	Endpoint	Reported dose	Key literature references and
	time		type		sources for data

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Sodium hypochlorite (<0.01%) CAS#: 7681-52-9	96 hours	Clupea pallasi	LC50	0.065 mg/L	Vendor SDS
Potassium hydroxide (<0.01%) CAS#: 1310-58-3	96 hours	Gambusia affinis	LC50	80 mg/L	ERMA

### Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hypochlorite (<0.01%) CAS#: 7681-52-9	48 Hours	Daphnia magna	LC50	0.032 mg/L	Vendor SDS

## Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium hypochlorite (<0.01%) CAS#: 7681-52-9	72 Hours	Pseudokirchnerella subcapitata	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 (<0.01%) CAS#: 7681-52-9	28 days	Menidia peninsulae	NOEC	0.04 mg/L	ECHA

### Crustacea

Che	emical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
	um hypochlorite (<0.01%) S#: 7681-52-9	15 days	Crassostrea virginica	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 (<0.01%) CAS#: 7681-52-9	7 days	None reported	NOEC	0.0021 mg/L	ECHA

## Persistence and degradability

Mixture

No data available.

**Mixture** 

No data available.

Partition coefficient No data available

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**Mobility** 

Soil Organic Carbon-Water Partition Coefficient No data available

Other adverse effects
No information available

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## 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 D002

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 acid, such as sulfuric or citric. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Check with national, local municipal and state authorities and waste contractors for pertinent local information on

the disposal of this article.

### 14. TRANSPORT INFORMATION

**DOT** Not regulated

TDG Not regulated

IATA Not regulated Special Provisions A3, A803

**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
ENCS Complies
IECSC Complies

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KECLCompliesPICCSCompliesTCSICompliesAICSCompliesNZIOCComplies

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

Acute health hazard Yes
Chronic Health Hazard Yes
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
Sodium hypochlorite 7681-52-9	100 lb	-	-	Х
Potassium hydroxide 1310-58-3	1000 lb	-	-	Х

## 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)
Γ	Sodium hypochlorite	100 lb	-	RQ 100 lb final RQ
	7681-52-9			RQ 45.4 kg final RQ
Γ	Potassium hydroxide	1000 lb	-	RQ 1000 lb final RQ
	1310-58-3			RQ 454 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.

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Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium hypochlorite 7681-52-9	X	X	Х
Potassium hydroxide 1310-58-3	X	X	X

#### **U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Sodium hypochlorite	180.0940	-
Potassium hydroxide	180.0910	21 CFR 184.1631

## 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

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

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

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

CDC

CEPA (Canadian Environmental Protection Agency) **CEPA** 

CICAD CICAD (Concise International Chemical Assessment Documents)

ECHA (The European Chemicals Agency) **ECHA** EEA (European Environment Agency) EEA EPA (Environmental Protection Agency) **EPA** 

ERMA (New Zealands Environmental Risk Management Authority) **ERMA** 

**ECOSARS** Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

FDA (Food & Drug Administration) **FDA** 

GESTIS (Information System on Hazardous Substances of the German Social Accident **GESTIS** 

Insurance)

HSDB HSDB (Hazardous Substances Data Bank)

INERIS (The National Industrial Environment and Risks Institute) **INERIS** IPCS INCHEM (International Programme on Chemical Safety) **IPCS INCHEM** IUCLID (The International Uniform Chemical Information Database) **IUCLID** NITE Japan National Institute of Technology and Evaluation (NITE)

NIH (National Institutes of Health) NIH

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)

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NIOSH IDLH Immediately Dangerous to Life or Health

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

PEEN (Pan European Ecological Network)

RTECS (Registry of Toxic Effects of Chemical Substances)
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 (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** 

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