SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name CuVer® 2 Copper Reagent

Other means of identification
Product Code(s) 2188299

Safety data sheet number M00108

Recommended use of the chemical and restrictions on use
Recommended Use Water Analysis. Indicator for copper.
Uses advised against None.
Restrictions on use None.

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

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word
Warning

Hazard statements

H319 - Causes serious eye irritation

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

Other Hazards Known
May be harmful if swallowed
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Not applicable

Mixture

Chemical Family Mixture.

Chemical name	CAS No	Percent Range	HMRIC #
Sodium sulfite	7757-83-7	20 - 30%	-
Sodium dithionite	7775-14-6	<10%	-
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel-	57137-35-6	<10%	-
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt	63451-34-3	1 - 5%	-

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.

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	Sulfur oxides. Sodium monoxide. Carbon monoxide, Carbon dioxide. Nitrogen oxides.
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	Pick up and transfer to properly labeled containers.
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

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. 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 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

Physical state Solid
Appearance crystalline **Color** White to yellow
Odor Slight **Odor threshold** No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	7.9	5% Solution
Melting point/freezing point	No data available	
Boiling point / boiling range	No data available	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity (water = 1 / air = 1)	1.98	
Partition Coefficient (n-octanol/water)	log K_{ow} ~ -2.36	

Soil Organic Carbon-Water Partition Coefficient log K_{oc} ~ -0.06

Autoignition temperature No data available

Decomposition temperature No data available

Dynamic viscosity Not applicable

Kinematic viscosity Not applicable

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	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate 5.97 mm/yr / 0.24 in/yr
Aluminum Corrosion Rate 0.58 mm/yr / 0.02 in/yr

Volatile Organic Compounds (VOC) Content
Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sodium sulfite	7757-83-7	No data available	-
Sodium dithionite	7775-14-6	Not applicable	-
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel-	57137-35-6	No data available	-
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt	63451-34-3	No data available	-

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
Sulfur oxides. Sodium monoxide. Carbon monoxide. Carbon dioxide. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation. May cause redness, itching, and pain.
Skin contact	May cause irritation. Prolonged contact may cause redness and irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	May cause redness and tearing of the eyes.

Acute toxicity
Based on available data, the classification criteria are not met

Product Acute Toxicity Data
No data available.

Ingredient Acute Toxicity Data
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 sulfite (20 - 30%) CAS#: 7757-83-7	Rat LD_{50}	3560 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Sodium dithionite (<10%) CAS#: 7775-14-6	Mouse LD_{50}	1500 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Rat LD_{50}	2000 mg/kg	None reported	None reported	EPA (United States Environmental Protection Agency)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Rat LC_{50}	5.5 mg/L	4 hours	None reported	ECHA (The European Chemicals Agency)

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

ATEmix (oral)	4,871.00 mg/kg
ATEmix (dermal)	8,627.00 mg/kg
ATEmix (inhalation-dust/mist)	19.00 mg/l
ATEmix (inhalation-vapor)	86.00 mg/l
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation
May cause skin irritation.

Product Skin Corrosion/Irritation Data
No data available.

Ingredient Skin Corrosion/Irritation Data
Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)
Sodium dithionite (<10%) CAS#: 7775-14-6	Standard Draize Test	Rabbit	800 mg	None reported	Mild skin irritant	IUCLID (The International Uniform Chemical Information Database)

Serious eye damage/irritation

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

Product Serious Eye Damage/Eye Irritation Data
No data available.

Ingredient Eye Damage/Eye Irritation Data
Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA (The European Chemicals Agency)
Sodium dithionite (<10%) CAS#: 7775-14-6	Standard Draize Test	Rabbit	100 mg	None reported	Eye irritant	IUCLID (The International Uniform Chemical Information Database)
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel- (<10%) CAS#: 57137-35-6	None reported	Rabbit	None reported	None reported	Eye irritant	IUCLID (The International Uniform Chemical Information Database)

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Product Sensitization Data
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 dithionite (<10%) CAS#: 7775-14-6	Based on human experience	Human	Not confirmed to be a skin sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data
No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data
No data available.

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
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 dithionite (<10%) CAS#: 7775-14-6	Rat NOAEL	217 mg/kg	None reported	None reported	OECD 429: Skin Sensitization: Local Lymph Node Assay

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

Product Carcinogenicity Data
No data available.

Ingredient Carcinogenicity Data
Test data reported below.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sodium sulfite	7757-83-7	-	Group 3	-	-
Sodium dithionite	7775-14-6	-	-	-	-
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel-	57137-35-6	-	-	-	-
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt	63451-34-3	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium dithionite (<10%) CAS#: 7775-14-6	None reported	942 mg/kg	2 years	Negative results for carcinogenicity	No information available

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

Product Germ Cell Mutagenicity *invitro* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invitro* **Data**
Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium dithionite (<10%) CAS#: 7775-14-6	Mutation in microorganisms	*Salmonella typhimurium*	None reported	None reported	Negative test result for mutagenicity	IUCLID (The International Uniform Chemical Information Database)

Product Germ Cell Mutagenicity *invivo* **Data**
No data available.

Ingredient Germ Cell Mutagenicity *invivo* **Data**
Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium dithionite (<10%) CAS#: 7775-14-6	Cytogenetic analysis	Rat	1200 mg/kg	None reported	Negative test result for mutagenicity	IUCLID (The International Uniform Chemical Information Database)

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

Product Reproductive Toxicity Data
No data available.

Ingredient Reproductive Toxicity Data
No data available.

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity
Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	96 hours	*Leuciscus idus*	LC_{50}	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay
Sodium dithionite (<10%) CAS#: 7775-14-6	96 hours	*Leuciscus idus*	LC_{50}	>= 46 mg/L	IUCLID (The International Uniform Chemical Information Database)
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel- (<10%) CAS#: 57137-35-6	96 hours	None reported	LC_{50}	35600 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt (1 - 5%) CAS#: 63451-34-3	96 hours	None reported	LC_{50}	658 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	48 Hours	*Daphnia magna*	EC_{50}	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay
Sodium dithionite (<10%) CAS#: 7775-14-6	48 Hours	*Daphnia magna*	EC_{50}	98 mg/L	IUCLID (The International Uniform Chemical Information Database)
Glycine, N,N-(1R,2R)-1,2-cyclohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel- (<10%) CAS#: 57137-35-6	48 Hours	None reported	LC_{50}	26162 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt (1 - 5%) CAS#: 63451-34-3	48 Hours	None reported	LC_{50}	442 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfite (20 - 30%) CAS#: 7757-83-7	None reported	*Chlamydomonas reinhardtii*	EC_{50}	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay
Glycine, N,N-(1R,2R)-1,2-cycl	96 hours	None reported	EC_{50}	56103 mg/L	Estimation through ECOSARS v1.11 part of the Estimation

ohexanediylbis[N-(carboxymethyl)-, sodium salt (1:2), rel- (<10%) CAS#: 57137-35-6					Programs Interface (EPI) Suite™
[2,2-Biquinoline]-4,4-dicarboxylic acid, dipotassium salt (1 - 5%) CAS#: 63451-34-3	96 hours	None reported	EC_{50}	659 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Product Biodegradability Data
No data available.

Bioaccumulation
MATERIAL DOES NOT BIOACCUMULATE
Product Bioaccumulation Data
No data available.

Partition Coefficient (n-octanol/water) log K_{ow} ~ -2.36

Mobility

Soil Organic Carbon-Water Partition Coefficient log K_{oc} ~ -0.06

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.

14. TRANSPORT INFORMATION

DOT Not regulated
Special Provisions Contact with acids liberates toxic gas, sulfur dioxide.

TDG Not regulated

IATA Not regulated

IMDG Not regulated

Note: No special precautions necessary.

Additional information

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 - Existing substances	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

Acute health hazard	Yes
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)

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

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

Chemical name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Sodium dithionite (<10%) CAS#: 7775-14-6	Sabotage/Contamination

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium dithionite 7775-14-6	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium sulfite	180.0910	21 CFR 182.3798
Sodium dithionite	-	21 CFR 182.90

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
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	0 %

NFPA and HMIS Classifications

NFPA	**Health hazards** - 2	**Flammability** - 0	**Instability** - 0	**Physical and chemical properties** -
HMIS	**Health hazards** - 2	**Flammability** - 0	**Physical hazards** - 0	**Personal protection** - X - I

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

NIOSH IDLH	*Immediately Dangerous to Life or Health*
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	*no data*

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
Issue Date	13-08-2018
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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.

End of Safety Data Sheet