

SAFETY DATA SHEET

Issue Date 20-Jan-2021	Revision Date 26-Jan-2024	Version 4.5	Page	1 / 15	
	1. IDENTIFICA	TION			
Product identifier Product Name	SP 510™ Hardness Monitor But	ffer Solution for 20 mg/L Hardness			
Other means of identification Product Code(s)	2768749				
Safety data sheet number	M03869				
Recommended use of the chemical and restrictions on useRecommended UseWater Analysis. Hardness determination.Uses advised againstConsumer use.Restrictions on useFor 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)

Flammable liquids	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word Warning

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Hazard statements H227 - Combustible liquid H315 - Causes skin irritation H319 - Causes serious eye irritation H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical attention
P362 - Take off contaminated clothing and wash before reuse
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
P501 - Dispose of contents/ container to an approved waste disposal plant
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P235 - Store in a well-ventilated place. Keep cool

Other Hazards Known

May be harmful if swallowed Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Not applicable

Mixture

Chemical Family Chemical nature Mixture. aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
2-Amino-2-methyl-1-propanol	124-68-5	50 - 60%	-
Poly(oxy-1,2-ethanediyl),	60828-78-6	1 - 5%	-
.alpha[3,5-dimethyl-1-(2-methylpropyl)hexyl]omegahydroxy-			
Acetic acid	64-19-7	1 - 5%	-
Tetrasodium EDTA, dihydrate	10378-23-1	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance.

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Inhalation	Get medical attention immediately if symptoms occur. 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 off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.	
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	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing.	
Most important symptoms and effe	ects, both acute and delayed	
Symptoms	Burning sensation.	
Indication of any immediate medic	al attention and special treatment needed	
Note to physicians	Treat symptomatically.	

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.	
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.	
Specific hazards arising from the chemical	Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.	
Hazardous combustion products	Nitrogen 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	Evacuate personnel to safe areas. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material. Ensure adequate ventilation. 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.

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Environmental precautions			
Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.		
Methods and material for containm	ent and cleaning up		
Methods for containment	Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.		
Methods for cleaning up	Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. 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	Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Take off contaminated clothing and wash before reuse. 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 away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in accordance with particular national and local regulations.

Flammability class

Class IIIA

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acetic acid	STEL: 15 ppm	TWA: 10 ppm	IDLH: 50 ppm
CAS#: 64-19-7	TWA: 10 ppm	TWA: 25 mg/m ³	TWA: 10 ppm
		(vacated) TWA: 10 ppm	TWA: 25 mg/m ³
		(vacated) TWA: 25 mg/m ³	STEL: 15 ppm
			STEL: 37 mg/m ³

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	Impervious gloves. 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	Tight sealing safety goggles.
Skin and body protection	Long sleeved clothing. Wear suitable protective clothing. Avoid contact with eyes, skin and clothing.
General Hygiene Considerations	Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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 stateAppearanceaqueousOdorAmine	Liquid solution		Color Odor threshold	colorless No information availa	ble
Property_		Values		Remark	s • Method
Molecular weight		No data availal	ble		
рН		11.3			
Melting point / freezing po	int	No data availal	ble		
Initial boiling point and bo	iling range	102 °C / 21	5.6 °F		
Evaporation rate		0.56 (water = 1)		
Vapor pressure		No information	available		
Relative vapor density		No data availa	able		
Specific gravity - VALUE 1	l	1.10			
Partition coefficient		No information	available		
Soil Organic Carbon-Wate Coefficient	r Partition	No data availal	ble		
Autoignition temperature		No data availal	ble		
Decomposition temperatu	re	No information	available		
Dynamic viscosity		No information	available		

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Kinematic viscosity

No information 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	<u>Solubility</u>	Solubility Temperature	
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F	

Other information

Metal Corrosivity

Steel Corrosion Rate Aluminum Corrosion Rate No data available No data available

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds	CAA (Clean Air Act)
		(VOC) content	
2-Amino-2-methyl-1-propanol	124-68-5	No data available	-
Poly(oxy-1,2-ethanediyl),	60828-78-6	No data available	-
.alpha[3,5-dimethyl-1-(2-methylpropyl			
)hexyl]omegahydroxy-			
Acetic acid	64-19-7	No data available	Х
Tetrasodium EDTA, dihydrate	10378-23-1	Not applicable	-

Explosive properties

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point Method	> 82 °C / 179.6 °F CC (closed cup)
Flammability Limit in Air Upper flammability limit: Lower flammability limit:	No data available No data available
Oxidizing properties	No data available.
Bulk density	Not applicable

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

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<u>Chemical stability</u> 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

Heat, flames and sparks.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Symptoms	Redness. 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

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (50 - 60%) CAS#: 124-68-5	Rat LD₅₀	2900 mg/kg	None reported	None reported	IUCLID
Acetic acid (1 - 5%) CAS#: 64-19-7	Rat LD ₅₀	3310 mg/kg	None reported	None reported	Vendor SDS
Tetrasodium EDTA,	Rat	2700 mg/kg	None reported	None reported	IUCLID

dihydrate	LD50		
(1 - 5%)			
CAS#: 10378-23-1			

Unknown Acute Toxicity

1.45E-06% 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)	4,918.80 mg/kg
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

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

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
Acetic acid (1 - 5%) CAS#: 64-19-7	Standard Draize Test	Rabbit	0.050 mg	None reported	Corrosive to skin	HSDB

Serious eye damage/irritation

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

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
2-Amino-2-methyl-1-p ropanol (50 - 60%) CAS#: 124-68-5	Buehler 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.

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[3,5-dimethyl- 1-(2-methylpropyl)he xyl]omegahydroxy- (1 - 5%) CAS#: 60828-78-6	LCLO	2.19 mg/L	4 hours	Lungs, Thorax, or Respiration Dyspnea	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.

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Poly(oxy-1,2-ethaned iyl), .alpha[3,5-dimethyl- 1-(2-methylpropyl)he xyl]omegahydroxy- (1 - 5%) CAS#: 60828-78-6	TCLo	0.154 mg/L	28 days	Lungs, Thorax, or Respiration Structural or functional change in trachea or bronchi	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
2-Amino-2-methyl-1-propa	124-68-5	-	-	-	-
nol					
Poly(oxy-1,2-ethanediyl), .alpha[3,5-dimethyl-1-(2- methylpropyl)hexyl]omeg ahydroxy-		-	-	-	-
Acetic acid	64-19-7	-	-	-	-

Tetrasodium EDTA, dihydrate	10378-23-1	-	-	-	-
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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

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (50 - 60%) CAS#: 124-68-5	Mutation in microorganisms	Salmonella typhimurium	5 mg/plate	None reported	Negative	ECHA

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.

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (50 - 60%) CAS#: 124-68-5	Rat NOAEL	300 mg/kg	15 days	No reproductive or developmental toxic effects observed	ECHA

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

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

<u>Mixture</u>

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
Acetic acid (1 - 5%) CAS#: 64-19-7	96 hours	Pimephales promelas	LC ₅₀	79 mg/L	GESTIS

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (50 - 60%) CAS#: 124-68-5	48 Hours	Daphina magna	EC ₅₀	65 mg/L	ECHA
Acetic acid (1 - 5%) CAS#: 64-19-7	48 Hours	None reported	LC ₅₀	90.1 mg/L	GESTIS

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture No data available.

Mixture No data available.

Partition coefficient

Mobility

Soil Organic Carbon-Water Partition Coefficient

No information available

No data available

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

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

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products	environmental legislation.
Contaminated packaging	Do not reuse empty containers.
US EPA Waste Number	D001

Special instructions for disposal Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted 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

<u>National Inventories</u> TSCA DSL/NDSL

Complies 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	Does not comply
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

<u>SARA 313</u>

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)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid 64-19-7	5000 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)
Acetic acid	5000 lb	-	RQ 5000 lb final RQ
64-19-7			RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

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
2-Amino-2-methyl-1-propanol 124-68-5	Х	Х	Х
Acetic acid 64-19-7	Х	Х	Х

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Acetic acid	180.0551	21 CFR 184.1005

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

Special Comments

None

Additional information

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Global Automotive Declarable Substance List (GADSL) Not applicable NFPA and HMIS Classifications

NFPA	Health hazards - 2	Flammability - 2	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 2	Flammability - 2	Physical hazards - 0	Personal protection -
			-	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 Zealands 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
Х	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.

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SKN* RSP+ C M	Skin designation Respiratory sensit Carcinogen mutagen	ization	SKN+ ** R	Skin sensitization Hazard Designation Reproductive toxicant
Prepared By		Hach Product Compliand	ce Department	
Issue Date		20-Jan-2021		
Revision Date		26-Jan-2024		
Revision Note		SDS sections updated 2		

<u>Disclaimer</u>

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