



Be Right™

# SAFETY DATA SHEET

Issue Date 28-Dec-2020

Revision Date  
10-Aug-2021

Version 5.4

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** Buffer Powder Citrate Type

**Other means of identification**

**Product Code(s)** 2107669

**Safety data sheet number** M00023

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

**Recommended Use** Laboratory reagent. Determination of manganese.

**Uses advised against** Consumer use.

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

**Details of the supplier of the safety data sheet**

**Manufacturer Address**

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

**Emergency telephone number**

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

## 2. HAZARDS IDENTIFICATION

**Classification**

**Regulatory Status**

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

Warning



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#### **Hazard statements**

H315 - Causes skin irritation  
H319 - Causes serious eye irritation

#### **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

#### **Other Hazards Known**

Harmful to aquatic life

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substance**

Not applicable

#### **Mixture**

**Chemical Family** Mixture.  
**Chemical nature** Inorganic Compound.

Chemical name	CAS No	Percent Range	HMRIC #
Phosphoric acid, disodium salt	7558-79-4	50 - 60%	-
Sodium sulfate	7757-82-6	30 - 40%	-
Citric acid	77-92-9	10 - 20%	-

### **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. Get medical attention immediately if symptoms occur.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**Skin contact** Wash off immediately with soap and plenty of water for at least 15 minutes. 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** 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

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Hazardous combustion products</b>	Phosphorus oxides. Sodium monoxide. Sulfur oxides. Carbon monoxide, Carbon dioxide.
<b>Special protective equipment for fire-fighters</b>	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. Ensure adequate ventilation. Use personal protective equipment as required.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

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

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

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

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

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

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hand Protection** Wear suitable gloves. Impervious 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. Long sleeved clothing.

**General Hygiene Considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

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

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	powder	Solid	<b>Color</b>	white
<b>Appearance</b>	None		<b>Odor threshold</b>	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	6.35	1% Solution
<b>Melting point/freezing point</b>	160 °C / 320 °F	
<b>Boiling point / boiling range</b>	No data available	
<b>Evaporation rate</b>	Not applicable	
<b>Vapor pressure</b>	Not applicable	

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**Relative vapor density** No data available  
**Specific gravity (water = 1 / air = 1)** 2.30  
**Partition Coefficient (n-octanol/water)** log K<sub>ow</sub> ~ -1.25  
**Soil Organic Carbon-Water Partition Coefficient** log K<sub>oc</sub> ~ -0.63  
**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
None reported	No information available	No data available	No information available

#### Other information

##### Metal Corrosivity

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

##### Volatile Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Phosphoric acid, disodium salt	7558-79-4	No data available	-
Sodium sulfate	7757-82-6	No data available	-
Citric acid	77-92-9	Not applicable	-

##### Explosive properties

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

##### Flammable properties

**Flash point** Not applicable

##### Flammability Limit in Air

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

##### Oxidizing properties

No data available.

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**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 acids. Strong bases. Strong oxidizing agents.

### Hazardous decomposition products

Phosphorus oxides. Sulfur 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

### **Product Acute Toxicity Data**

No data available.

### **Ingredient Acute 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
Citric acid (10 - 20%) CAS#: 77-92-9	Rat LD <sub>50</sub>	3000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

#### 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)	16,853.90 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.

#### 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
Phosphoric acid, disodium salt (50 - 60%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium sulfate (30 - 40%) CAS#: 7757-82-6	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)
Citric acid (10 - 20%) CAS#: 77-92-9	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

#### 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
Phosphoric acid, disodium salt (50 - 60%) CAS#: 7558-79-4	Standard Draize Test	Rabbit	500 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium sulfate	Standard Draize	Rabbit	90 mg	24 hours	Not corrosive or	ECHA (The European

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(30 - 40%) CAS#: 7757-82-6	Test				irritating to eyes	Chemicals Agency)
Citric acid (10 - 20%) CAS#: 77-92-9	Standard Draize Test	Rabbit	0.750 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **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**

<b>Chemical name</b>	<b>Test method</b>	<b>Species</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Sodium sulfate (30 - 40%) CAS#: 7757-82-6	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	HSDB (Hazardous Substances Data Bank)

#### **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.

#### **Inhalation (Dust/Mist) Exposure Route**

#### **Carcinogenicity**

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

#### **Product Carcinogenicity Data**

No data available.

#### **Ingredient Carcinogenicity Data**

No data available.

<b>Chemical name</b>	<b>CAS No</b>	<b>ACGIH</b>	<b>IARC</b>	<b>NTP</b>	<b>OSHA</b>
Phosphoric acid, disodium salt	7558-79-4	-	-	-	-
Sodium sulfate	7757-82-6	-	-	-	-
Citric acid	77-92-9	-	-	-	-

#### **Legend**



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<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Does not apply
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	Does not apply

#### **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**

No data available.

#### **Product Germ Cell Mutagenicity invivo Data**

No data available.

#### **Ingredient Germ Cell Mutagenicity invivo Data**

No data available.

#### **Reproductive toxicity**

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

#### **Product Reproductive Toxicity Data**

No data available.

#### **Ingredient Reproductive Toxicity Data**

Test data reported below.

#### **Oral Exposure Route**

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
Sodium sulfate (30 - 40%) CAS#: 7757-82-6	Mouse TD <sub>Lo</sub>	14000 mg/kg	4 days	<b>Effects on Newborn</b> Other neonatal measures or effects	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **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 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.

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#### Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfate (30 - 40%) CAS#: 7757-82-6	96 hours	None reported	LC <sub>50</sub>	56 mg/L	IUCLID (The International Uniform Chemical Information Database)

#### Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium sulfate (30 - 40%) CAS#: 7757-82-6	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	3150 mg/L	IUCLID (The International Uniform Chemical Information Database)

#### 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<sub>ow</sub> ~ -1.25

#### Mobility

#### Soil Organic Carbon-Water Partition Coefficient

log K<sub>oc</sub> ~ -0.63

#### 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.

#### Special instructions for disposal

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

### 14. TRANSPORT INFORMATION

#### DOT

Not regulated

#### TDG

Not regulated

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**IATA** Not regulated

**IMDG** Not regulated

**Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.  
If the item is part of a reagent set or kit the classification would change to the following:  
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.  
If the item is not regulated, the Chemical Kit classification does not apply.

**15. REGULATORY INFORMATION**

**National Inventories**

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

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

**International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL - Existing substances** 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

**SARA 311/312 Hazard Categories**

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

**CWA (Clean Water Act)**

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

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
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Phosphoric acid, disodium salt 7558-79-4	5000 lb	-	-	X
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**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)
Phosphoric acid, disodium salt 7558-79-4	5000 lb	-	RQ 5000 lb final RQ 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
Phosphoric acid, disodium salt 7558-79-4	X	X	X
Sodium sulfate 7757-82-6	-	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Phosphoric acid, disodium salt	180.0910	21 CFR 182.1778,21 CFR 182.6290,21 CFR 182.6778,21 CFR 182.8778
Sodium sulfate	-	21 CFR 186.1797
Citric acid	180.0950	21 CFR 184.1033

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

**Special Comments**

None

**Additional information**

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

Not applicable

**NFPA and HMIS Classifications**

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

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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

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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.**

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**End of Safety Data Sheet**