

# SAFETY DATA SHEET

**Issue Date** 04-Mar-2021 **Revision Date** 10-Feb-2025 **Version** 12.4 **Page** 1 / 14

## 1. IDENTIFICATION

**Product identifier** 

**Product Name** Buffer Solution Hardness 1 pH 10.1 ± 0.1

Other means of identification

Product Code(s) 42432

Safety data sheet number M00305

Recommended use of the chemical and restrictions on use

**Recommended Use** Laboratory reagent. Hardness determination.

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
Chronic aquatic toxicity	Category 3

## 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

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

### Other Hazards Known

Harmful to aquatic life

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

### **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 #
2-Amino-2-methyl-1-propanol	124-68-5	40 - 50%	-
Acetic acid	64-19-7	<10%	-
Magnesium acetate	142-72-3	<1%	-

## 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

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**Symptoms** Burning sensation.

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 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 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 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. Avoid contact with

skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off

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contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

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

Flammability class Class IIIB

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

## **Exposure Guidelines**

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

Appropriate engineering controls

**Engineering Controls** 

Showers

Eyewash stations

Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous

substance at the specific workplace.

Individual protection measures, such as personal protective equipment

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Wear breathing apparatus if exposed to vapors/dusts/aerosols.

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. Barrier creams may help to protect the exposed areas of skin.

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** 

**Environmental exposure controls** 

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

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

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Appearanceaqueous solutionColorColorless to light yellowOdorVinegarOdor thresholdNo data available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight No data available

**pH** 10.0

Melting point / freezing point -16 °C / 3.2 °F

Initial boiling point and boiling range 104 °C / 219.2 °F

**Evaporation rate** No data available

Vapor pressure 23.027 mm Hg / 3.07 kPa at 25 °C / 77 °F

Relative vapor density 0.6

Specific gravity - VALUE 1 1.033

Partition coefficient Not applicable

**Soil Organic Carbon-Water Partition** 

**Autoignition temperature** 

Coefficient

Not applicable

No data available

Decomposition temperature No data available

Dynamic viscosity

No data available

Dynamic viscosity

Kinematic viscosity No data 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**

Corrosive to metals

Steel Corrosion Rate Aluminum Corrosion Rate 0.05 mm/yr / 0 in/yr

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

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
2-Amino-2-methyl-1-propanol	124-68-5	No data available	-
Acetic acid	64-19-7	No data available	X
Magnesium acetate	142-72-3	No data available	-

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**Explosive properties** 

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point > 97 °C / 207 °F

Method

Flammability Limit in Air

Upper flammability limit:No data availableLower 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 acids. Strong bases. Strong oxidizing agents.

## Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide.

## 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.

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**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 (40 - 50%) CAS#: 124-68-5	Rat LD₅o	2900 mg/kg	None reported	None reported	IUCLID
Acetic acid (<10%) CAS#: 64-19-7	Rat LD <sub>50</sub>	3310 mg/kg	None reported	None reported	Vendor SDS

## **Unknown Acute Toxicity**

0.0023% 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)	No information available 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 (<10%) 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

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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 (40 - 50%) 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

No data available.

## 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

No data available.

### 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 nol	124-68-5	-	-	-	-
Acetic acid	64-19-7	-	-	-	-
Magnesium acetate	142-72-3	-	-	-	-

### Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	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.

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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 (40 - 50%) 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 (40 - 50%) 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** 0.0023% 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.

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## Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid (<10%) CAS#: 64-19-7	96 hours	Pimephales promelas	LC50	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 (40 - 50%) CAS#: 124-68-5	48 Hours	Daphina magna	EC50	65 mg/L	ECHA
Acetic acid (<10%) CAS#: 64-19-7	48 Hours	None reported	LC50	90.1 mg/L	GESTIS

## **Aquatic Chronic Toxicity**

No data available.

## Persistence and degradability

Mixture

No data available.

Bioaccumulation

There is no data for this product

**Mixture** 

No data available.

Partition coefficient Not applicable

**Mobility** 

**Soil Organic Carbon-Water Partition Coefficient** 

Not applicable

Other adverse effects
No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

Waste from residues/unused

products

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

environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

US EPA Waste Number Not applicable

Special instructions for disposal 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. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and

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waste contractors for pertinent local information on the disposal of this article.

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

TDG Not regulated

IATA Not regulated

IMDG Not regulated

**Note:** No special precautions necessary.

**Additional information** 

## 15. REGULATORY INFORMATION

#### **National Inventories**

For Inventory status, "complies" means, listed on the inventory, exempted or otherwise complies.

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 Complies **ENCS IECSC** Complies **KECI** Complies Complies **PICCS** Complies TCSI Complies **AICS** Complies **NZIoC** 

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)**

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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	-	-	X

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetic acid	5000 lb	<del>-</del>	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

IMERC: Not applicable

## U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-Amino-2-methyl-1-propanol 124-68-5	X	X	X
Acetic acid 64-19-7	X	X	X

## **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**

### Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Magnesium acetate	Declarable Substance (FI)	1 %
142-72-3		0.1 %

## NFPA and HMIS Classifications

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NFPA	Health hazards - 2	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 2	Flammability - 1	Physical hazards - 0	Personal protection -
				X
				<b>- I</b>

## 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 (Chemical Carcinogenesis Research Information System)

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 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 (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 (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 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 (SÝKE)
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

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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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