



**Be Right™**

# SAFETY DATA SHEET

Issue Date 04-May-2021

Revision Date 25-Jan-2022

Version 2.8

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** CalVer® 2 Calcium Indicator

**Other means of identification**

**Product Code(s)** 94799

**Safety data sheet number** M00005

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

**Recommended Use** Laboratory reagent. Calcium determination.

**Uses advised against** Consumer use.

**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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

None

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Hazards Known**

May be harmful if swallowed

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Substance**

Not applicable

**Mixture**

**Chemical Family** Mixture.  
**Chemical nature** Mixture of inorganic salts.

#### 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See Section 11 for additional Toxicological Information.

**Indication of any immediate medical attention and special treatment needed**

**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** No information available.

**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** Ensure adequate ventilation.

### 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.

### 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. 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. Ensure adequate ventilation.

**Hand Protection** 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.

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**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** No special protective equipment required. Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reuse.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

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

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Color</b>	Light pink to lavender
<b>Appearance</b>	powder	<b>Odor threshold</b>	No data available
<b>Odor</b>	Amine		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	Not applicable	
<b>pH</b>	7.9	5% Solution
<b>Melting point/freezing point</b>	274 °C / 525.2 °F	
<b>Boiling point / boiling range</b>	No data available	
<b>Evaporation rate</b>	Not applicable	
<b>Vapor pressure</b>	Not applicable	
<b>Relative vapor density</b>	No data available	
<b>Specific gravity (water = 1 / air = 1)</b>	2.13	
<b>Partition Coefficient (n-octanol/water)</b>	No data available	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	No data available	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	273.9 °C / 525 °F	
<b>Dynamic viscosity</b>	Not applicable	
<b>Kinematic viscosity</b>	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

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### Other information

#### **Metal Corrosivity**

**Steel Corrosion Rate** Not applicable  
**Aluminum Corrosion Rate** Not applicable

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

#### **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

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

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### Information on likely routes of exposure

#### Product Information

**Inhalation** No known effect based on information supplied.  
**Eye contact** No known effect based on information supplied.  
**Skin contact** No known effect based on information supplied.  
**Ingestion** No known effect based on information supplied.

**Symptoms** No information available.

#### **Acute toxicity**

Based on available data, the classification criteria are not met

#### **Product Acute Toxicity Data**

No data available.

#### **Ingredient Acute Toxicity Data**

No data available.

#### **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

<b>ATEmix (oral)</b>	3,023.00 mg/kg
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

#### **Skin corrosion/irritation**

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

#### **Product Skin Corrosion/Irritation Data**

No data available.

#### **Ingredient Skin Corrosion/Irritation Data**

No data available.

#### **Serious eye damage/irritation**

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

#### **Product Serious Eye Damage/Eye Irritation Data**

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.

#### **Product Sensitization Data**

No data available.

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**Ingredient Sensitization Data**

No data available.

**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**

No data available.

**Carcinogenicity**

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

**Product Carcinogenicity Data**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

**Legend**

<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**

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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**

No data available.

#### **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)**

No data available

### Mobility

#### **Soil Organic Carbon-Water Partition Coefficient**

No data available

#### **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. If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

#### 14. TRANSPORT INFORMATION

<b>DOT</b>	Not regulated
<b>TDG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated

#### Additional information

#### 15. REGULATORY INFORMATION

##### National Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies

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

##### International Inventories

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL - Existing substances</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	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>	No
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

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**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

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

**U.S. EPA Label Information**

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

**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

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SKN\* Skin designation  
RSP+ Respiratory sensitization  
C Carcinogen  
M mutagen

regulations.  
SKN+ Skin sensitization  
\*\* Hazard Designation  
R Reproductive toxicant

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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.**

**End of Safety Data Sheet**



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# SAFETY DATA SHEET

Issue Date 04-May-2021

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24-May-2023

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Potassium Hydroxide Solution 8 N

### Other means of identification

**Product Code(s)** 28232H

**Safety data sheet number** M00216

**UN/ID no** UN1814

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

**Recommended Use** Calcium determination. Hardness determination. Buffer. Water Analysis.

**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)

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

#### **Hazards not otherwise classified (HNOC)**

Not applicable

#### **Label elements**

##### **Signal word**

Danger

**Product Code(s)** 28232H  
**Issue Date** 04-May-2021  
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#### Hazard statements

H290 - May be corrosive to metals  
H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage

#### Precautionary statements

P270 - Do not eat, drink or smoke when using this product  
P501 - Dispose of contents/ container to an approved waste disposal plant  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P280 - Wear protective gloves, protective clothing, eye protection, and face protection  
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage

#### Other Hazards Known

Harmful to aquatic life

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### Mixture

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Potassium hydroxide	1310-58-3	40 - 50%	-

### 4. FIRST AID MEASURES

#### Description of first aid measures

#### General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	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 immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**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** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 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>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	This material will not burn.
<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. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**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. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

**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. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium hydroxide CAS#: 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

**Appropriate engineering controls**

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

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

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

<b>Hand Protection</b>	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.
<b>Eye/face protection</b>	Face protection shield.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
<b>General Hygiene Considerations</b>	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product.
<b>Environmental exposure controls</b>	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.
<b>Thermal hazards</b>	None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Color</b>	colorless
<b>Appearance</b>	aqueous solution	<b>Odor threshold</b>	No data available
<b>Odor</b>	Irritating		

Property	Values	Remarks • Method
<b>Molecular weight</b>	No data available	
<b>pH</b>	14	@ 20 °C
<b>Melting point/freezing point</b>	~ -45 °C / -49 °F	
<b>Initial boiling point and boiling range</b>	~ 112 °C / 233.6 °F	
<b>Evaporation rate</b>	0.18 (water = 1)	
<b>Vapor pressure</b>	450.495 mm Hg / 60.06 kPa at 100 °C / 212 °F	
<b>Relative vapor density</b>	0.62	
<b>Specific gravity - VALUE 1</b>	1.3	
<b>Partition Coefficient (n-octanol/water)</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	12.51 cP (mPa s) at 0 °C / 32 °F	
<b>Kinematic viscosity</b>	9.623 cSt (mm <sup>2</sup> /s) at 0 °C / 32 °F	

### Solubility(ies)

#### **Water solubility**



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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

#### Other information

##### Metal Corrosivity

Classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate**

No data available

**Aluminum Corrosion Rate**

541 mm/yr / 21.3 in/yr

#### Volatile Organic Compounds (VOC) Content

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Potassium hydroxide	1310-58-3	No data available	-

#### Explosive properties

**Upper explosion limit**

No data available

**Lower explosion limit**

No data available

#### Flammable properties

**Flash point**

No data available

#### 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

Corrosive on contact with water. Corrosive to metal.

#### 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

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None under normal processing.

**Conditions to avoid**

Exposure to air or moisture over prolonged periods.

**Incompatible materials**

Oxidizing agent. Acids. Bases.

**Hazardous decomposition products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

**Eye contact** Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** May cause irritation.

**Ingestion** Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity**

Based on available data, the classification criteria are not met

**Mixture**

No data available.

**Ingredient Acute Toxicity Data**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	Rat LD <sub>50</sub>	333 mg/kg	None reported	None reported	Vendor SDS

**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

ATE <sub>mix</sub> (oral)	821.00 mg/kg
ATE <sub>mix</sub> (dermal)	No information available
ATE <sub>mix</sub> (inhalation-dust/mist)	No information available

<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Skin corrosion/irritation**

May cause skin irritation.

**Mixture**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	Standard Draize Test	Human	50 mg	24 hours	Corrosive to skin	RTECS

**Serious eye damage/irritation**

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

**Mixture**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA

**Respiratory or skin sensitization**

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

**Mixture**

No data available.

**Ingredient Sensitization Data**

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	Intracutaneous 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.

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**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
Potassium hydroxide	1310-58-3	-	-	-	-

**Legend**

<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</b>	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**

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	Cytogenetic analysis	Rat ascites tumor	1800 mg/kg	None reported	Positive test result for mutagenicity	RTECS

**Mixture invivo Data**

No data available.

**Substance invivo Data**

No data available.

**Reproductive toxicity**

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

**Mixture**

No data available.

**Ingredient Reproductive Toxicity Data**

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 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**

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Potassium hydroxide (40 - 50%) CAS#: 1310-58-3	96 hours	<i>Gambusia affinis</i>	LC <sub>50</sub>	80 mg/L	ERMA

**Aquatic Chronic Toxicity**

No data available.

**Persistence and degradability**

**Mixture**

No data available.

**Mixture**

No data available.

**Partition Coefficient (n-octanol/water)**

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**

D002

**Special instructions for disposal**

Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

**14. TRANSPORT INFORMATION**

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**DOT**

**UN/ID no** UN1814  
**Proper shipping name** Potassium Hydroxide, Solution  
**Transport hazard class(es)** 8  
**Packing Group** II  
**Reportable Quantity (RQ)** Potassium hydroxide: RQ kg= 1119.61  
**Description** UN1814, Potassium hydroxide, solution, 8, II, RQ  
**Emergency Response Guide Number** 154

**TDG**

**UN/ID no** UN1814  
**Proper shipping name** Potassium hydroxide solution  
**Transport hazard class(es)** 8  
**Packing Group** II  
**Description** UN1814, Potassium hydroxide solution, 8, II

**IATA**

**UN number or ID number** UN1814  
**Proper shipping name** Potassium hydroxide solution  
**Transport hazard class(es)** 8  
**Packing group** II  
**ERG Code** 8L  
**Special precautions for user** A3, A803

**IMDG**

**UN number or ID number** UN1814  
**Proper shipping name** Potassium hydroxide solution  
**Transport hazard class(es)** 8  
**Packing Group** II  
**EmS-No** F-A, S-B

**Note:** No special precautions necessary.

**Additional information**

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

**15. REGULATORY INFORMATION**

**National Inventories**

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

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

**International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL - Existing substances** Complies  
**PICCS** Complies  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

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**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>	Yes
<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
Potassium hydroxide 1310-58-3	1000 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)
Potassium hydroxide 1310-58-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 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 does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Potassium hydroxide 1310-58-3	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Potassium hydroxide	180.0910	21 CFR 184.1631

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

**Special Comments**

None

**Additional information**

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

Not applicable

**NFPA and HMIS Classifications**

<b>NFPA</b>	<b>Health hazards - 3</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and chemical properties -</b>
<b>HMIS</b>	<b>Health hazards - 3</b>	<b>Flammability - 0</b>	<b>Physical hazards - 0</b>	<b>Personal protection -</b> 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 Zealand's 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
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



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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** 04-May-2021

**Revision Date** 24-May-2023

**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.**

**HACH COMPANY©2023**

**End of Safety Data Sheet**



**Be Right™**

# SAFETY DATA SHEET

Issue Date 17-Dec-2019

Revision Date 08-Feb-2023

Version 3.8

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** EDTA Titrant, 0.035 N

**Other means of identification**

**Product Code(s)** 2349932

**Safety data sheet number** M00662

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

**Recommended Use** Titrant solution. Water Analysis.

**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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

None

**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Hazards Known**

None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**  
Not applicable

**Mixture**

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
1,2-Propanediol	57-55-6	20 - 30%	-
Hydrochloric acid	7647-01-0	<0.1%	-

#### 4. FIRST AID MEASURES

**Description of first aid measures**

**General advice** No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** See Section 11 for additional Toxicological Information.

**Indication of any immediate medical attention and special treatment needed**

**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** No information available.

**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** Ensure adequate ventilation.

**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.

**Conditions for safe storage, including any incompatibilities**

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

**Flammability class** Not applicable

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Hydrochloric acid CAS#: 7647-01-0	Ceiling: 2 ppm	(vacated) Ceiling: 5 ppm (vacated) Ceiling: 7 mg/m <sup>3</sup> Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 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. Ensure adequate ventilation.

**Hand Protection** 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.

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	No special protective equipment required. Avoid contact with eyes, skin and clothing.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	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.
<b>Thermal hazards</b>	None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	aqueous solution
<b>Odor</b>	Odorless
<b>Color</b>	colorless
<b>Odor threshold</b>	No data available

Property	Values	Remarks • Method
<b>Molecular weight</b>	No data available	
<b>pH</b>	5.0	@ 20 °C
<b>Melting point / freezing point</b>	~ -26 °C / -14.8 °F	
<b>Initial boiling point and boiling range</b>	101 °C / 213.8 °F	
<b>Evaporation rate</b>	0.66 (water = 1)	
<b>Vapor pressure</b>	21.752 mm Hg / 2.9 kPa at 25 °C / 77 °F	
<b>Relative vapor density</b>	0.62	
<b>Specific Gravity</b>	1.014	
<b>Partition coefficient</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Kinematic viscosity</b>	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**

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<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other information**

**Metal Corrosivity**

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

**Volatile Organic Compounds (VOC) Content**

See ingredients information below

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
1,2-Propanediol	57-55-6	No data available	X
Hydrochloric acid	7647-01-0	Not applicable	-

**Explosive properties**

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

**Flammable properties**

**Flash point** No data available

**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**

None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Product Information**

**Inhalation** No known effect based on information supplied.  
**Eye contact** No known effect based on information supplied.  
**Skin contact** No known effect based on information supplied.  
**Ingestion** No known effect based on information supplied.

**Symptoms** No information available.

**Acute toxicity**

Based on available data, the classification criteria are not met

**Mixture**

No data available.

**Ingredient Acute Toxicity Data**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat LD <sub>50</sub>	20000 mg/kg	None reported	None reported	RTECS
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rabbit LD <sub>50</sub>	20800 mg/kg	None reported	None reported	IUCLID

**Unknown Acute Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

<b>ATEmix (oral)</b>	No information available
<b>ATEmix (dermal)</b>	No information available
<b>ATEmix (inhalation-dust/mist)</b>	No information available
<b>ATEmix (inhalation-vapor)</b>	No information available
<b>ATEmix (inhalation-gas)</b>	No information available

**Skin corrosion/irritation**

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

**Mixture**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Existing human experience	Human	None reported	None reported	Corrosive to skin	RTECS

**Serious eye damage/irritation**

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

**Mixture**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Existing human experience	Human	None reported	None reported	Corrosive to eyes	RTECS

**Respiratory or skin sensitization**

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

**Mixture**

No data available.

**Ingredient Sensitization Data**

No data available.

**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.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Man LD <sub>Lo</sub>	2.857 mg/kg	None reported	<b>Vascular</b> BP lowering not characterized in autonomic section <b>Lungs, Thorax, or Respiration</b> Respiratory depression <b>Gastrointestinal</b> Other changes	RTECS
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Human TC <sub>Lo</sub>	0.05 mg/L	None reported	<b>Lungs, Thorax, or Respiration</b> Cough	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**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat TC <sub>Lo</sub>	2.180 mg/L	90 days	<b>Behavioral</b> Food intake <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) <b>Endocrine</b> Changes in spleen weight	RTECS
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Rat TC <sub>Lo</sub>	0.000685 mg/L	84 days	<b>Behavioral</b> Muscle contraction or spasticity <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (true cholinesterase) <b>Kidney, Ureter, or Bladder</b> Other changes in urine composition	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
1,2-Propanediol	57-55-6	-	-	-	-
Hydrochloric acid	7647-01-0	-	Group 3	-	X

**Legend**

<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</b>	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**

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Cytogenetic analysis	Hamster fibroblast	32000 mg/L	None reported	Positive test result for mutagenicity	RTECS
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Cytogenetic analysis	Hamster lung	30 mmol/L	None reported	Positive test result for mutagenicity	RTECS

**Mixture in vivo Data**  
 No data available.

**Substance in vivo Data**  
 No data available.

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

**Mixture**  
 No data available.

**Ingredient Reproductive Toxicity Data**  
 No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Rat TC <sub>Lo</sub>	0.450 mg/L	1 hours	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus) <b>Specific Developmental Abnormalities</b> Homeostasis	RTECS

**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 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**  
 No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	51400 mg/L	IUCLID
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	34400 mg/L	IUCLID
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	96 hours	<i>Selenastrum capricornutum</i>	EC <sub>50</sub>	19000 mg/L	IUCLID

**Aquatic Chronic Toxicity**

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No data available.

#### **Persistence and degradability**

##### **Mixture**

No data available.

##### **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.

##### **Special instructions for disposal**

If permitted by regulation. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. 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. Dispose of material in an E.P.A. approved hazardous waste facility.

### **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**

#### **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**

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL - Existing substances</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	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

Chemical name	SARA 313 - Threshold Values %
Hydrochloric acid (CAS #: 7647-01-0)	1.0

**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 contains the following substances which are regulated 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
Hydrochloric acid 7647-01-0	5000 lb	-	-	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

**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
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Release - Toxic (concentration >=37%); Release - Toxic (anhydrous); Theft - Weapons of Mass Effect (anhydrous)

**U.S. - DEA (Drug Enforcement Administration) List I & List II**

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Chemical name	U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals
Hydrochloric acid (<0.1%) CAS#: 7647-01-0	Not Listed	0.0 kg Domestic Sales Weight (listed under anhydrous Hydrogen chloride); 50 gallon Export Volume (exports, transshipments and international transactions to designated countries given in 1310.08(b)); 27 kg Export Weight (exports, transshipments and international transactions to designated countries given in 1310.08(b), listed under anhydrous Hydrogen chloride)

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
1,2-Propanediol 57-55-6	X	-	X
Hydrochloric acid 7647-01-0	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
1,2-Propanediol	180.0910 180.0930	21 CFR 184.1666
Hydrochloric acid	180.0910	21 CFR 182.1057

**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>	Health hazards - 0	Flammability - 0	Instability - 0	Physical and chemical properties -
<b>HMIS</b>	Health hazards - 0	Flammability - 0	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 Zealand's 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
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** 17-Dec-2019  
**Revision Date** 08-Feb-2023  
**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.**

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**End of Safety Data Sheet**



Be Right™

# SAFETY DATA SHEET

Issue Date 17-10-2019

Revision Date 15-Jun-2023

Version 4.7

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## 1. IDENTIFICATION

### Product identifier

**Product Name** ManVer® Hardness Indicator

### Other means of identification

**Product Code(s)** 42532

**Safety data sheet number** M00635

**UN/ID no** UN2924

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

**Recommended Use** Water Analysis. Laboratory reagent. Indicator for hardness.

**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)

Flammable liquids	Category 3
Corrosive to metals	Category 1
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

#### **Hazards not otherwise classified (HNOC)**

Not applicable

#### **Label elements**

##### **Signal word**

Danger





#### **Hazard statements**

H226 - Flammable liquid and vapor  
H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction  
H351 - Suspected of causing cancer  
H373 - May cause damage to organs through prolonged or repeated exposure

#### **Precautionary statements**

P280 - Wear protective gloves, protective clothing, eye protection, and face protection  
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/ container to an approved waste disposal plant  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P201 - Obtain special instructions before use  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P233 - Keep container tightly closed  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof electrical/ ventilating/ lighting/ equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge  
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  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

#### **Other Hazards Known**

May be harmful if swallowed  
Toxic to aquatic life

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

#### **Substance**

Not applicable

#### **Mixture**

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
1,2-Propanediol	57-55-6	90 - 100%	-
Hydroxylamine, hydrochloride	5470-11-1	1 - 5%	-
Isopropyl alcohol	67-63-0	1 - 5%	-

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. May cause an allergic skin reaction.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	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. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

##### Most important symptoms and effects, both acute and delayed

**Symptoms** Burning sensation. Itching. Rashes. Hives.

##### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitization in susceptible persons. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Unsuitable Extinguishing Media</b>	Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. Product is or contains a sensitizer. May cause

sensitization by skin contact.

**Hazardous combustion products**

Carbon monoxide, Carbon dioxide. Chlorides. Hydrogen chloride.

**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. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material.

**Other Information**

Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental precautions**

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

**Methods and material for containment and cleaning up**

**Methods for containment**

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers 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.

**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. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear

suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. 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**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. 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. Do not store near combustible materials. Keep in an area equipped with sprinklers. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials. Store in accordance with particular national and local regulations.

**Flammability class** Class IC

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Isopropyl alcohol CAS#: 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m <sup>3</sup> (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>

**Appropriate engineering controls**

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

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

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

**Eye/face protection** Face protection shield.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. 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. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

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

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** aqueous solution  
**Color** dark red  
**Odor** Fruity  
**Odor threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	1.09	@ 20 °C
<b>Melting point / freezing point</b>	No data available	
<b>Initial boiling point and boiling range</b>	118 °C / 244.4 °F	
<b>Evaporation rate</b>	0.05 (water = 1)	
<b>Vapor pressure</b>	1.35 mm Hg / 0.18 kPa at 20 °C / 68 °F	
<b>Relative vapor density</b>	2.08	
<b>Specific gravity - VALUE 1</b>	1.01	
<b>Partition coefficient</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Kinematic viscosity</b>	No data available	

### Solubility(ies)

#### Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

### Other information

#### **Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

##### **Steel Corrosion Rate**

7.32 mm/yr / 0.29 in/yr

##### **Aluminum Corrosion Rate**

0.03 mm/yr / 0 in/yr

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

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
1,2-Propanediol	57-55-6	No data available	X
Hydroxylamine, hydrochloride	5470-11-1	No data available	-
Isopropyl alcohol	67-63-0	100%	X

#### Explosive properties

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

#### Flammable properties

Flash point 26 °C / 78.8 °F  
Method CC (closed cup)

#### 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

Corrosive on contact with water. Corrosive to metal.

#### Chemical stability

Stable under normal conditions.

#### Explosion data

Sensitivity to Mechanical Impact None.  
Sensitivity to Static Discharge Yes.

#### Possibility of hazardous reactions

None under normal processing.

#### Hazardous polymerization

None under normal processing.

#### Conditions to avoid

Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

#### Incompatible materials

Oxidizing agent. Acids. Bases.

#### Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

## 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

#### Product Information

**Inhalation** Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

**Eye contact** Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Ingestion** Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

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

**Mixture**  
 No data available.

**Ingredient Acute Toxicity Data**  
 No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	Rat LD <sub>50</sub>	20000 mg/kg	None reported	None reported	RTECS
Hydroxylamine, hydrochloride (1 - 5%) CAS#: 5470-11-1	Rat LD <sub>50</sub>	141 mg/kg	None reported	None reported	Vendor SDS
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Rat LD <sub>50</sub>	4710 mg/kg	None reported	<b>Behavioral</b> General anesthetic	OECD 429: Skin Sensitization: Local Lymph Node Assay
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	Rabbit LD <sub>50</sub>	20800 mg/kg	None reported	None reported	IUCLID
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Rabbit LD <sub>50</sub>	4059 mg/kg	None reported	None reported	LOLI
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Rat LC <sub>50</sub>	72.6 mg/L	4 hours	<b>Behavioral</b> General anesthetic <b>Lungs, Thorax, or Respiration</b> Other changes	RTECS

**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)	3,168.00 mg/kg
ATEmix (dermal)	25,229.00 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

### Skin corrosion/irritation

Causes severe burns.

#### Mixture

No data available.

### Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Standard Draize Test	Rabbit	500 mg	None reported	Mild skin irritant	RTECS

### Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

#### Mixture

No data available.

### Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Standard Draize Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS

### Respiratory or skin sensitization

May cause sensitization by skin contact.

#### Mixture

No data available.

### Ingredient Sensitization Data

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	None reported	Guinea pig	Not confirmed to be a skin sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

### 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.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Human TD <sub>Lo</sub>	223 mg/kg	None reported	<b>Behavioral</b> Hallucinations, Distorted perceptions <b>Cardiac</b> Pulse rate decrease with fall in BP <b>Vascular</b> BP lowering not characterized in autonomic section	RTECS
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Human TC <sub>Lo</sub>	35 mg/L	4 hours	<b>Cardiac</b> Pulse rate decrease with fall in BP <b>Lungs, Thorax, or Respiration</b> Other changes	RTECS

**STOT - repeated exposure**

May cause damage to organs.

**Mixture**

No data available.

**Ingredient Specific Target Organ Toxicity Repeat Exposure Data**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Hydroxylamine, hydrochloride (1 - 5%) CAS#: 5470-11-1	Rat LD <sub>Lo</sub>	2478 mg/kg	6 days	<b>Behavioral</b> Food intake <b>Blood</b> Changes in blood leukocyte count <b>Nutritional and Gross Metabolic</b> Weight loss or decreased weight gain	NIOSH
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	Rat TC <sub>Lo</sub>	2.180 mg/L	90 days	<b>Behavioral</b> Food intake <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) <b>Endocrine</b> Changes in spleen weight	RTECS

**Carcinogenicity**

Classification based on data available for ingredients. Contains a known or suspected carcinogen.

**Mixture**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
1,2-Propanediol	57-55-6	-	-	-	-
Hydroxylamine, hydrochloride	5470-11-1	-	-	-	-
Isopropyl alcohol	67-63-0	-	Group 3	-	X

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Group 3 - Not classifiable as a human carcinogen
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA</b>	X - Present

**Germ cell mutagenicity**

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

**Mixture invitro Data**

No data available.

**Substance invitro Data**

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	Cytogenetic analysis	Hamster fibroblast	32000 mg/L	None reported	Positive test result for mutagenicity	RTECS

**Mixture invivo Data**

No data available.

**Substance invivo Data**

No data available.

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Cytogenetic analysis	Rat	0.00103 mg/L	16 weeks	Positive test result for mutagenicity	RTECS

**Reproductive toxicity**

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

**Mixture**

No data available.

**Ingredient Reproductive Toxicity Data**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Rat TD <sub>Lo</sub>	32.4 mg/kg	None reported	<b>Effects on Embryo or Fetus</b> Fetal death	RTECS
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	Rat TC <sub>Lo</sub>	7000 mg/L	19 days	<b>Specific Developmental Abnormalities</b> Musculoskeletal system	RTECS

**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 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**

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	51400 mg/L	IUCLID
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	4200 mg/L	IUCLID
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	34400 mg/L	IUCLID
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	48 Hours	None reported	LC <sub>50</sub>	1400 mg/L	IUCLID
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol (90 - 100%) CAS#: 57-55-6	96 hours	<i>Selenastrum capricornutum</i>	EC <sub>50</sub>	19000 mg/L	IUCLID
Isopropyl alcohol (1 - 5%) CAS#: 67-63-0	72 Hours	<i>Scenedesmus subspicatus</i>	EC <sub>50</sub>	> 1000 mg/L	IUCLID

**Aquatic Chronic Toxicity**

No data available.

**Persistence and degradability**

**Mixture**

No data available.

**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	Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.
US EPA Waste Number	D001, D002
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 alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain.

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no	UN2924
Proper shipping name	Flammable liquids, corrosive, n.o.s.
DOT Technical Name	Hydroxylamine, hydrochloride, Isopropyl alcohol
Transport hazard class(es)	3
Subsidiary class	8
Packing Group	III
Description	UN2924, Flammable liquids, corrosive, n.o.s. (Isopropyl alcohol), 3 (8), III
Emergency Response Guide Number	132

#### TDG

UN/ID no	UN2924
Proper shipping name	Flammable liquid, corrosive, n.o.s.
TDG Technical Name	Hydroxylamine, hydrochloride, Isopropyl alcohol
Transport hazard class(es)	3
Subsidiary class	8
Packing Group	III
Description	UN2924, Flammable liquid, corrosive, n.o.s. (Isopropyl alcohol), 3 (8), III

#### IATA

UN number or ID number	UN2924
Proper shipping name	Flammable liquid, corrosive, n.o.s.
IATA Technical Name	Hydroxylamine, hydrochloride, Isopropyl alcohol
Transport hazard class(es)	3
Subsidiary hazard class	8
Packing group	III
ERG Code	3C
Special precautions for user	A3, A803

#### IMDG

UN number or ID number	UN2924
Proper shipping name	Flammable liquid, corrosive, n.o.s.
IMDG Technical Name	Hydroxylamine, hydrochloride, Isopropyl alcohol

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Transport hazard class(es) 3  
Subsidiary hazard class 8  
Packing Group III  
EmS-No F-E, S-C  
Special precautions for user 223, 274

**Note:** No special precautions necessary.

**Additional information**

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

**15. REGULATORY INFORMATION**

**National Inventories**

TSCA Complies  
DSL/NDSL Complies

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

**International Inventories**

EINECS/ELINCS Complies  
ENCS Complies  
IECSC Complies  
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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Isopropyl alcohol (CAS #: 67-63-0)	1.0

**SARA 311/312 Hazard Categories**

Acute health hazard Yes  
Chronic Health Hazard Yes  
Fire hazard Yes  
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

**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
1,2-Propanediol 57-55-6	X	-	X
Isopropyl alcohol 67-63-0	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
1,2-Propanediol	180.0910 180.0930	21 CFR 184.1666
Isopropyl alcohol	180.0950	-

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

**Special Comments**

None

**Additional information**

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

Not applicable

**NFPA and HMIS Classifications**

NFPA	Health hazards - 3	Flammability - 3	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 3 - *	Flammability - 3	Physical hazards - 0	Personal protection - X - I

**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
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** 17-10-2019

**Revision Date** 15-Jun-2023

**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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**Product Code(s)** 42532  
**Issue Date** 17-10-2019  
**Version** 4.7

**Product Name** ManVer® Hardness Indicator  
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**End of Safety Data Sheet**





Be Right™

# SAFETY DATA SHEET

Issue Date 04-Mar-2021

Revision Date 08-Feb-2023

Version 12.1

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## 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



Product Code(s) 42432  
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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

**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>	Nitrogen 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** 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

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 CAS#: 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm 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.

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.

**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

**Physical state** Liquid  
**Appearance** aqueous solution  
**Odor** Vinegar  
**Color** Colorless to light yellow  
**Odor threshold** No data available

**Property** Values Remarks • Method

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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 0.97 (water = 1)  
 Vapor pressure 23.027 mm Hg / 3.07 kPa at 25 °C / 77 °F  
 Relative vapor density 0.6  
 Specific Gravity 1.033  
 Partition coefficient Not applicable  
 Soil Organic Carbon-Water Partition Coefficient Not applicable  
 Autoignition temperature No data available  
 Decomposition temperature No data available  
 Dynamic viscosity No data available  
 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	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

**Other information**

**Metal Corrosivity**

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

**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	-

**Explosive properties**

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

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**Flammable properties**

Flash point Method > 97 °C / 207 °F

Flammability Limit in Air  
Upper flammability limit:  
Lower flammability limit:

No data available  
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.  
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-propanol (40 - 50%) CAS#: 124-68-5	Rat LD <sub>50</sub>	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)	5,258.30 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**

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-propanol (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-propanol	124-68-5	-	-	-	-
Acetic acid	64-19-7	-	-	-	-
Magnesium acetate	142-72-3	-	-	-	-

**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

**Germ cell mutagenicity**

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

**Mixture *in vitro* Data**

No data available.



**Substance *in vitro* 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	<i>Salmonella typhimurium</i>	5 mg/plate	None reported	Negative	ECHA

**Mixture *in vivo* Data**

No data available.

**Substance *in vivo* 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 component(s) of unknown hazards to the aquatic environment.

**Mixture**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Substance**

**Aquatic Acute Toxicity**

Test data reported below.

**Fish**

Chemical name	Exposure	Species	Endpoint	Reported dose	Key literature references and
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	time		type		sources for data
Acetic acid (<10%) CAS#: 64-19-7	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	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-propanol (40 - 50%) CAS#: 124-68-5	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	65 mg/L	ECHA
Acetic acid (<10%) CAS#: 64-19-7	48 Hours	None reported	LC <sub>50</sub>	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 waste contractors for pertinent local information on the disposal of this article.

**14. TRANSPORT INFORMATION**

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**DOT** Not regulated  
**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** 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**

**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	5000 lb	-	-	X

64-19-7			
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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)
Acetic acid 64-19-7	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

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 Thresholds
Magnesium acetate 142-72-3	Declarable Substance (FI)	1 % 0.1 %

**NFPA and HMIS Classifications**

NFPA	Health hazards	Flammability	Instability	Physical and chemical properties
	- 2	- 1	- 0	-
HMIS	Health hazards	Flammability	Physical hazards	Personal protection
	- 2	- 1	- 0	- 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 Zealand's 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
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** 04-Mar-2021  
**Revision Date** 08-Feb-2023  
**Revision Note** None

**Disclaimer**

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**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