



**Be Right™**

# SAFETY DATA SHEET

**Issue Date** 30-03-2018

**Revision Date** 25-Jan-2022

**Version** 3.2

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** Ascorbic Acid Titrant

**Other means of identification**

**Product Code(s)** 2308232

**Safety data sheet number** M00698

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

**Recommended Use** Determination of ascorbic acid. 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)

Specific target organ toxicity (repeated exposure)

Category 1

**Hazards not otherwise classified (HNOc)**

Not applicable

**Label elements**

**Signal word**

Danger



**Hazard statements**

H372 - Causes damage to organs through prolonged or repeated exposure

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#### Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P314 - Get medical advice/attention if you feel unwell  
P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other Hazards Known

None

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### Mixture

**Chemical Family** 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%	-
Potassium iodide (KI)	7681-11-0	1 - 5%	-
Potassium hydroxide	1310-58-3	<0.1%	-

### 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.

**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** No information available.

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chemical

**Hazardous combustion products** Iodine compounds. Carbon monoxide, Carbon dioxide.

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice** Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

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

### Environmental precautions

**Environmental precautions** See Section 12 for additional ecological information.

### Methods and material for containment and cleaning up

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

**Methods for cleaning up** 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. Ensure adequate ventilation.

### 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

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Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium iodide (KI) CAS#: 7681-11-0	TWA: 0.01 ppm inhalable fraction and vapor	NDF	NDF
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.

##### Hand Protection

Wear suitable gloves.

##### Eye/face protection

Wear safety glasses with side shields (or goggles).

##### Skin and body protection

No special protective equipment required.

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	10.58	@ 20 °C
<b>Melting point/freezing point</b>	-7 °C / 19.4 °F	
<b>Boiling point / boiling range</b>	97 °C / 206.6 °F	
<b>Evaporation rate</b>	1.05 (water = 1)	
<b>Vapor pressure</b>	23.027 mm Hg / 3.07 kPa at 25 °C / 77 °F	
<b>Relative vapor density</b>	0.74	
<b>Specific gravity (water = 1 / air = 1)</b>	1.03	
<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	

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**Decomposition temperature** No data available

**Dynamic viscosity** No data available

**Kinematic viscosity** 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**

**Steel Corrosion Rate** 0.38 mm/yr / 0.01 in/yr  
**Aluminum Corrosion Rate**

**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
Potassium iodide (KI)	7681-11-0	Not applicable	-
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**

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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**

Iodine compounds. Carbon dioxide. Carbon monoxide. Potassium oxide.

## 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

**Product Acute Toxicity Data**

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
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat LD <sub>50</sub>	20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Rat LD <sub>50</sub>	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium hydroxide	Rat	333 mg/kg	None	None reported	Vendor SDS

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(<0.1%) CAS#: 1310-58-3	LD <sub>50</sub>		reported		
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#### Dermal Exposure Route

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 (The International Uniform Chemical Information Database)

#### Unknown Acute Toxicity

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

#### Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
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

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

#### Product Skin Corrosion/Irritation Data

No data available.

#### Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (<0.1%) CAS#: 1310-58-3	Standard Draize Test	Human	50 mg	24 hours	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)

#### 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

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium hydroxide (<0.1%) CAS#: 1310-58-3	Existing human experience	Human	None reported	None reported	Corrosive to eyes	ERMA (New Zealand's Environmental Risk Management Authority)

#### Respiratory or skin sensitization

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

#### Product Sensitization Data

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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
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)
Potassium hydroxide (<0.1%) CAS#: 1310-58-3	Intracutaneous Test	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)

#### 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

Test data reported below.

#### Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Mouse LD <sub>Lo</sub>	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

#### STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

#### Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

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

Test data reported below.

#### Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Rat NOAEL	0.5 mg/kg	90 days	None reported	ECHA (The European Chemicals Agency)

#### Inhalation (Vapor) Exposure Route

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)	RTECS (Registry of Toxic Effects of Chemical Substances)



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				<b>Endocrine</b> Changes in spleen weight	
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#### **Carcinogenicity**

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

#### **Product Carcinogenicity Data**

No data available.

#### **Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
1,2-Propanediol	57-55-6	-	-	-	-
Potassium iodide (KI)	7681-11-0	-	-	-	-
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 (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**

Test data reported below.

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 (Registry of Toxic Effects of Chemical Substances)
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Potassium hydroxide (<0.1%) CAS#: 1310-58-3	Cytogenetic analysis	Rat ascites tumor	1800 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **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**

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No data available.

#### **Ingredient Reproductive 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
Potassium iodide (KI) (1 - 5%) CAS#: 7681-11-0	Human TD <sub>Lo</sub>	2700 mg/kg	39 weeks	<b>Specific Developmental Abnormalities</b> Endocrine System	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **Aspiration hazard**

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

## **12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

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

#### **Unknown aquatic toxicity**

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

#### **Product Ecological Data**

##### **Aquatic Acute Toxicity**

No data available.

##### **Aquatic Chronic Toxicity**

No data available.

#### **Ingredient Ecological Data**

##### **Aquatic Acute Toxicity**

Test data reported below.

#### **Fish**

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 (The International Uniform Chemical Information Database)
Potassium hydroxide (<0.1%) CAS#: 1310-58-3	96 hours	<i>Gambusia affinis</i>	LC <sub>50</sub>	80 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)

#### **Crustacea**

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 (The International Uniform Chemical Information Database)

#### **Algae**

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
1,2-Propanediol	96 hours	<i>Selenastrum capricornutum</i>	EC <sub>50</sub>	19000 mg/L	IUCLID (The International

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(20 - 30%) CAS#: 57-55-6					Uniform Chemical Information Database)
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**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)**

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**

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. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

### 14. TRANSPORT INFORMATION

**DOT**

Not regulated

**TDG**

Not regulated

**IATA**

Not regulated

**IMDG**

Not regulated

**Note:**

No special precautions necessary.

**Additional information**

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.

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If the item is not regulated, the Chemical Kit classification does not apply.

## 15. REGULATORY INFORMATION

### National Inventories

**TSCA** Complies  
**DSL/NDL** Complies

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

### International Inventories

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

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### **SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	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

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## US State Regulations

### California Proposition 65

This product does not contain any Proposition 65 chemicals

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

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
1,2-Propanediol 57-55-6	X	-	X
Potassium hydroxide 1310-58-3	X	X	X

### U.S. EPA Label Information

Chemical name	FIFRA	FDA
1,2-Propanediol	180.0910 180.0930	21 CFR 184.1666
Potassium iodide (KI)	180.0940	21 CFR 184.1634
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**

NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 1*	Flammability - 0	Physical hazards - 0	Personal protection - X - I

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

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

### **Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that

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some reference state regulations of these  
"liberated" exposure limits in their state  
regulations.

SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department

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**Revision Note** 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©2022**

**End of Safety Data Sheet**



**Be Right™**

# SAFETY DATA SHEET

**Issue Date** 17-10-2019

**Revision Date**  
10-Aug-2021

**Version** 6.5

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** Sulfuric Acid Standard Solution, 5.25 N

**Other means of identification**

**Product Code(s)** 244932

**Safety data sheet number** M00437

**UN/ID no** UN3264

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

**Recommended Use** Laboratory reagent. Standard solution.

**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
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word**

Danger

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#### Hazard statements

H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage

#### Precautionary statements

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  
P501 - Dispose of contents/ container to an approved waste disposal plant  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage

#### 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 #
Sulfuric acid	7664-93-9	20 - 30%	-

### 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.

##### Inhalation

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.

##### Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open



while rinsing. Do not rub affected area. Get immediate medical advice/attention.

**Skin contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.

**Ingestion**

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.

**Self-protection of the first aider**

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

**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**

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous combustion products**

This material will not burn.

**Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice**

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. 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**

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**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
Sulfuric acid CAS#: 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic particulate matter	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 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.

**Hand Protection** Wear suitable gloves. Impervious gloves.

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

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Avoid contact with eyes, skin and clothing.

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**General Hygiene Considerations** 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.

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	< 0.5	@ 20 °C
<b>Melting point/freezing point</b>	~ -12 °C / 10.4 °F	
<b>Boiling point / boiling range</b>	~ 103 °C / 217.4 °F	
<b>Evaporation rate</b>	0.85 (water = 1)	
<b>Vapor pressure</b>	22.502 mm Hg / 3 kPa at 25 °C / 77 °F	
<b>Relative vapor density</b>	0.62	
<b>Specific gravity (water = 1 / air = 1)</b>	1.149	
<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>	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

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#### Other information

##### **Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate**

**Aluminum Corrosion Rate**

5.84 mm/yr / 0.23 in/yr

> 6.35 mm/yr / > 0.25 in/yr

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

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfuric acid	7664-93-9	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

Not applicable. 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

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**

<b>Inhalation</b>	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.
<b>Eye contact</b>	Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	May cause irritation.
<b>Ingestion</b>	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

**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)**

<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**

Causes severe burns.

**Product Skin Corrosion/Irritation Data**

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
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						<b>sources for data</b>
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)

**Serious eye damage/irritation**

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

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

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

No data available.

<b>Chemical name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)

**Respiratory or skin sensitization**

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

**Product Sensitization Data**

No data available.

**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.

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Human TD <sub>Lo</sub>	0.144 mg/L	5 minutes	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

**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.

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Human TC <sub>Lo</sub>	0.003 mg/L	168 days	<b>Musculoskeletal</b> Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)

**Carcinogenicity**

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

**Product Carcinogenicity Data**

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No data available.

#### **Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sulfuric acid	7664-93-9	A2	Group 1	Known	X

#### **Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	A2 - Suspected Human Carcinogen
<b>IARC (International Agency for Research on Cancer)</b>	Group 1 - Carcinogenic to Humans
<b>NTP (National Toxicology Program)</b>	Known - Known Carcinogen
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	X - Present

#### **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.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information 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**

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Rabbit TC <sub>Lo</sub>	0.02 mg/L	7 hours	<b>Specific Developmental Abnormalities</b> Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **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.

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#### **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.

##### **Product Bioaccumulation Data**

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**

If permitted by regulation. Work in an approved fume hood. Dilute material with excess water making a weaker than 5% solution. 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**

##### **UN/ID no**

UN3264

##### **Proper shipping name**

Corrosive Liquid, Acidic, Inorganic, N.O.S.

##### **DOT Technical Name**

(<45% Sulfuric Acid solution)



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**Transport hazard class(es)** 8  
**Packing Group** III  
**Emergency Response Guide Number** 154

**TDG**

**UN/ID no** UN3264  
**Proper shipping name** Corrosive Liquid, Acidic, Inorganic, N.O.S.  
**TDG Technical Name** (<45% Sulfuric Acid solution)  
**Transport hazard class(es)** 8  
**Packing Group** III

**IATA**

**UN number or ID number** UN3264  
**Proper shipping name** Corrosive Liquid, Acidic, Inorganic, N.O.S.  
**IATA Technical Name** (<45% Sulfuric Acid solution)  
**Transport hazard class(es)** 8  
**Packing group** III  
**ERG Code** 154

**IMDG**

**UN number or ID number** UN3264  
**Proper shipping name** Corrosive Liquid, Acidic, Inorganic, N.O.S.  
**IMDG Technical Name** (<45% Sulfuric Acid solution)  
**Transport hazard class(es)** 8  
**Packing Group** III

**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

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**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 %
Sulfuric acid (CAS #: 7664-93-9)	1.0

### SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
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
Sulfuric acid 7664-93-9	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)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

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

Chemical name	U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals
Sulfuric acid (20 - 30%) CAS#: 7664-93-9	Not Listed	50 gallon Export Volume (exports, transshipments and international transactions to designated countries given in 1310.08(b))

## US State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Sulfuric acid (CAS #: 7664-93-9)	Carcinogen



**WARNING:** This product can expose you to chemicals including Sulfuric acid, which is known to the State of California to cause cancer.

For more information, go to <http://www.P65Warnings.ca.gov>

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

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Sulfuric acid	180.0910	21 CFR 184.1095

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

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

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

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department

**Issue Date** 17-10-2019

**Revision Date** 10-Aug-2021

**Product Code(s)** 244932  
**Issue Date** 17-10-2019  
**Version** 6.5

**Product Name** Sulfuric Acid Standard Solution, 5.25 N  
**Revision Date** 10-Aug-2021  
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**Revision Note** None

**Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**



**Be Right™**

# SAFETY DATA SHEET

**Issue Date** 17-Dec-2020

**Revision Date**  
24-Aug-2021

**Version** 8

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## 1. IDENTIFICATION

**Product identifier**

**Product Name** Starch Indicator Solution

**Other means of identification**

**Product Code(s)** 34932

**Safety data sheet number** M00294

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

**Recommended Use** Oxidation-reduction indicator. Water Analysis. Laboratory reagent.

**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 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

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**  
Not applicable

#### Mixture

**Chemical Family** Mixture.  
**Chemical nature** aqueous solution.

Chemical name	CAS No	Percent Range	HMRIC #
Salicylic acid	69-72-7	<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** 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.

#### **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.

**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>	Turbid solution aqueous solution
<b>Color</b>	colorless
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	3.1	@ 20 °C
<b>Melting point/freezing point</b>	0 °C / 32 °F	
<b>Boiling point / boiling range</b>	100 °C / 212 °F	
<b>Evaporation rate</b>	1 (water = 1)	
<b>Vapor pressure</b>	24.002 mm Hg / .? kPa at 25 °C / .? °F	
<b>Relative vapor density</b>	0.62	
<b>Specific gravity (water = 1 / air = 1)</b>	0.986	
<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 information available	
<b>Dynamic viscosity</b>	~ 1 cP (mPa s) at .? °C / .? °F	
<b>Kinematic viscosity</b>	~ .? cSt (mm <sup>2</sup> /s) at 20 °C / .? °F	

### Solubility(ies)

#### Water solubility

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



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#### 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

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

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

<b>Chemical name</b>	<b>CAS No</b>	<b>Volatile organic compounds (VOC) content</b>	<b>CAA (Clean Air Act)</b>
Salicylic acid	69-72-7	No data available	X

##### 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

Not applicable

## 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.

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**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

**Product Acute Toxicity Data**

No data available.

**Ingredient Acute Toxicity Data**

Test data reported below.

**Oral Exposure Route**

**Dermal Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Rat LD <sub>50</sub>	> 2000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Rat LC <sub>50</sub>	> 250 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

**Unknown Acute Toxicity**

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

**Acute Toxicity Estimations (ATE)**

ATEmix (oral)	No information available
---------------	--------------------------

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<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**

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

**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**

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Standard Draize Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)

**Respiratory or skin sensitization**

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

**Product Sensitization Data**

No data available.

**Ingredient Sensitization Data**

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.

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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.

**Product Carcinogenicity Data**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Salicylic acid	69-72-7	-	-	-	-

**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 (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

**Germ cell mutagenicity**

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

**Product Germ Cell Mutagenicity invitro Data**

No data available.

**Ingredient Germ Cell Mutagenicity invitro Data**

No data available.

**Product Germ Cell Mutagenicity invivo Data**

No data available.

**Ingredient Germ Cell Mutagenicity invivo Data**

No data available.

**Reproductive toxicity**

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

**Product Reproductive Toxicity Data**

No data available.

**Ingredient Reproductive Toxicity Data**

Test data reported below.

**Oral Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Rat TD <sub>Lo</sub>	40 mg/kg	21 days	Maternal Effects Parturition	RTECS (Registry of Toxic Effects of Chemical Substances)

**Aspiration hazard**

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

**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity**

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

**Unknown aquatic toxicity**

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

**Product Ecological Data**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Ingredient Ecological Data**

**Aquatic Acute Toxicity**

No data available.

**Aquatic Chronic Toxicity**

No data available.

**Persistence and degradability**

**Product Biodegradability Data**

No data available.

**Product Bioaccumulation Data**

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**

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 alkali, such as soda ash or sodium bicarbonate. 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

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

##### **Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

#### 15. REGULATORY INFORMATION

##### **National Inventories**

<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

###### **CWA (Clean Water Act)**

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

#### **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 may contain 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</b> - 0	<b>Flammability</b> - 0	<b>Instability</b> - 0	<b>Physical and chemical properties</b> -
<b>HMIS</b>	<b>Health hazards</b> - 0	<b>Flammability</b> - 0	<b>Physical hazards</b> - 0	<b>Personal protection</b> - X - I

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

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

#### **Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.

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

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

**Prepared By** Hach Product Compliance Department

**Issue Date** 17-Dec-2020

**Revision Date** 24-Aug-2021

**Revision Note** None

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**End of Safety Data Sheet**