



Be Right™

# SAFETY DATA SHEET

Issue Date 16-Jun-2016

Revision Date 05-Jan-2018

Version 3.1

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Citric Acid F Reagent

### Other means of identification

**Product Code(s)** 2254249

**Safety data sheet number** M00341

**UN/ID no** UN3265

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

**Recommended Use** Laboratory reagent. Silica test color stabilization and phosphate removal.

**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 +1(515)232-2533 - 8am - 4pm CST

## 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
Respiratory sensitization	
Skin sensitization	
Mutagenicity	
Carcinogenicity	
Reproductive toxicity	
Specific target organ toxicity (single exposure)	

#### 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/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  
P363 - Wash contaminated clothing before reuse  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P405 - Store locked up  
P501 - Dispose of contents/ container to an approved waste disposal plant  
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  
P234 - Keep only in original container  
P390 - Absorb spillage to prevent material damage

### **Other Information**

Not applicable

## **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 #
Citric acid	77-92-9	10 - 20%	-
Propanoic acid	79-09-4	<1%	-

Chemical name	CAS No.	Weight-%
Citric acid 77-92-9	77-92-9	17.94
Propanoic acid 79-09-4	79-09-4	0.93

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	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

<b>Symptoms</b>	Burning sensation.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	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.
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## 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.

## 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 IDLH
Propanoic acid CAS#: 79-09-4	TWA: 10 ppm	(vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> STEL: 15 ppm

		STEL: 45 mg/m <sup>3</sup>
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**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.

**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>	None	<b>Odor threshold</b>	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	1.0	
<b>Melting point/freezing point</b>	< ~ 0 °C / 32 °F	Estimation based on theoretical calculation
<b>Boiling point / boiling range</b>	> ~ 100 °C / 212 °F	Estimation based on theoretical calculation
<b>Evaporation rate</b>	0.93 (water = 1)	
<b>Vapor pressure</b>	23.252 mm Hg / 3.1 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
<b>Vapor density (air = 1)</b>	0.62 (air = 1)	
<b>Specific gravity (water = 1 / air = 1)</b>	1.07	
<b>Partition Coefficient (n-octanol/water)</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition</b>	Not applicable	

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#### Coefficient

**Autoignition temperature** No data available  
**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

Classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate**

8.23 mm/yr / 0.32 in/yr

**Aluminum Corrosion Rate**

0.13 mm/yr / 0.01 in/yr

##### 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>
Citric acid	77-92-9	No data available	-
Propanoic acid	79-09-4	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

**Method**

No information 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

**Particle Size**

No information available

**Particle Size Distribution**

No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

Not applicable.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

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

### Possibility of Hazardous Reactions

**Possibility of Hazardous Reactions** None under normal processing.

### Hazardous polymerization

None under normal processing.

### Conditions to avoid

**Conditions to avoid** Exposure to air or moisture over prolonged periods.

### Incompatible materials

**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.

**Aggravated Medical Conditions** Eye disorders. Skin disorders. Respiratory disorders.

**Toxicologically synergistic products** None known.

**Toxicokinetics, metabolism and distribution** See ingredients information below.

### Product Acute Toxicity Data

**Oral Exposure Route** No data available

**Dermal Exposure Route** No data available

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Inhalation (Dust/Mist) Exposure Route  
 Inhalation (Vapor) Exposure Route  
 Inhalation (Gas) Exposure Route

No data available  
 No data available  
 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

ATEmix (oral)	16,722.00 mg/kg
ATEmix (dermal)	13,935.00 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

**Ingredient Acute Toxicity Data**

**Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Citric acid (10 - 20%) CAS#: 77-92-9	Rat LD <sub>50</sub>	3000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Propanoic acid (<1%) CAS#: 79-09-4	Rat LD <sub>50</sub>	2600 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

**Dermal Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Citric acid (10 - 20%) CAS#: 77-92-9	Rat LD <sub>50</sub>	> 2000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Propanoic acid (<1%) CAS#: 79-09-4	Rabbit LD <sub>50</sub>	500 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

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

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	Rat LC <sub>50</sub>	> 4.9 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)

**Inhalation (Vapor) Exposure Route**

If available, see data below

**Inhalation (Gas) Exposure Route**

If available, see data below

**Product Specific Target Organ Toxicity Single Exposure Data**

**Oral Exposure Route**

No data available

**Dermal Exposure Route**

No data available

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

No data available

**Inhalation (Vapor) Exposure Route**

No data available

**Inhalation (Gas) Exposure Route**

No data available

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

**Oral Exposure Route**

If available, see data below

**Dermal Exposure Route**

If available, see data below

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

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Citric acid	Rat	0.180 mg/L	None	Lungs, Thorax, or	RTECS (Registry of Toxic



Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
(10 - 20%) CAS#: 77-92-9	TD <sub>Lo</sub>		reported	<b>Respiration</b> Other changes <b>Liver</b> Impaired liver function tests <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases)	Effects of Chemical Substances)

**Inhalation (Vapor) Exposure Route**

If available, see data below

**Inhalation (Gas) Exposure Route**

If available, see data below

**Aspiration toxicity**

No data available

**Product Skin Corrosion/Irritation Data**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	Open Irritation Test	Rabbit	495 mg	None reported	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)

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

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	Standard Draize Test	Rabbit	0.99 mg	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)

**Sensitization Information**

**Product Sensitization Data**

**Skin Sensitization Exposure Route**

No data available.

**Respiratory Sensitization Exposure Route**

No data available.

**Ingredient Sensitization Data**

**Skin Sensitization Exposure Route**

If available, see data below.

Chemical name	Test method	Species	Results	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)

**Respiratory Sensitization Exposure Route**

If available, see data below.

**Chronic Toxicity Information**

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

**Oral Exposure Route**

No data available.

Dermal Exposure Route No data available.  
 Inhalation (Dust/Mist) Exposure Route No data available.  
 Inhalation (Vapor) Exposure Route No data available.  
 Inhalation (Gas) Exposure Route No data available.

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

Oral Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Citric acid (10 - 20%) CAS#: 77-92-9	Rat TD <sub>Lo</sub>	930 mg/kg	15 days	<b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) <b>Blood</b> Changes in serum composition (e.g. TP, bilirubin, cholesterol)	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route If available, see data below

Inhalation (Dust/Mist) Exposure Route If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Citric acid (10 - 20%) CAS#: 77-92-9	Rat TD <sub>Lo</sub>	0.180 mg/L	None reported	<b>Lungs, Thorax, or Respiration</b> Other changes <b>Liver</b> Impaired liver function tests <b>Biochemical</b> Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route If available, see data below

Inhalation (Gas) Exposure Route If available, see data below

**Product Carcinogenicity Data**

Oral Exposure Route No data available  
 Dermal Exposure Route No data available  
 Inhalation (Dust/Mist) Exposure Route No data available  
 Inhalation (Vapor) Exposure Route No data available  
 Inhalation (Gas) Exposure Route No data available

**Ingredient Carcinogenicity Data**

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Citric acid	77-92-9	-	-	-	-
Propanoic acid	79-09-4	-	-	-	-

**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

Oral Exposure Route If available, see data below  
 Dermal Exposure Route If available, see data below  
 Inhalation (Dust/Mist) Exposure Route If available, see data below  
 Inhalation (Vapor) Exposure Route If available, see data below  
 Inhalation (Gas) Exposure Route If available, see data below

**Product Germ Cell Mutagenicity *in vitro* Data**

No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	Mutation in microorganisms	<i>Salmonella typhimurium</i>	6.667 mg/plate	None reported	Negative test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Germ Cell Mutagenicity *in vivo* Data**

Oral Exposure Route No data available  
 Dermal Exposure Route No data available  
 Inhalation (Dust/Mist) Exposure Route No data available  
 Inhalation (Vapor) Exposure Route No data available  
 Inhalation (Gas) Exposure Route No data available

**Ingredient Germ Cell Mutagenicity *in vivo* Data**

Oral Exposure Route If available, see data below  
 Dermal Exposure Route If available, see data below  
 Inhalation (Dust/Mist) Exposure Route If available, see data below  
 Inhalation (Vapor) Exposure Route If available, see data below  
 Inhalation (Gas) Exposure Route If available, see data below

**Product Reproductive Toxicity Data**

Oral Exposure Route No data available  
 Dermal Exposure Route No data available  
 Inhalation (Dust/Mist) Exposure Route No data available  
 Inhalation (Vapor) Exposure Route No data available  
 Inhalation (Gas) Exposure Route No data available

**Ingredient Reproductive Toxicity Data**

Oral Exposure Route If available, see data below  
 Inhalation (Dust/Mist) Exposure Route If available, see data below  
 Inhalation (Vapor) Exposure Route If available, see data below  
 Inhalation (Gas) Exposure Route If available, see data below

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Product Ecological Data**

**Aquatic toxicity**

Fish No data available  
 Crustacea No data available  
 Algae No data available

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish** If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Citric acid (10 - 20%) CAS#: 77-92-9	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	1516 mg/L	IUCLID (The International Uniform Chemical Information Database)
Propanoic acid	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	51.0 mg/L	IUCLID (The International

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(<1%) CAS#: 79-09-4					Uniform Chemical Information Database)
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**Crustacea** If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Propanoic acid (<1%) CAS#: 79-09-4	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	45.8 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Algae** No data available

**Other Information**

**Persistence and degradability**

**Product Biodegradability Data**  
 No data available.

**Ingredient Biodegradability Data**

Chemical name	Test method	Biodegradation	Exposure time	Results
Citric acid (10 - 20%) CAS#: 77-92-9	None reported	None reported	None reported	Readily biodegradable

**Bioaccumulation**

**Product Bioaccumulation Data**  
 No data available.

**Partition Coefficient (n-octanol/water)** Not applicable

**Ingredient Bioaccumulation Data**

Chemical name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Citric acid (10 - 20%) CAS#: 77-92-9	None reported	None reported	None reported	None reported	Does not have the potential to bioaccumulate

**Mobility**

**Soil Organic Carbon-Water Partition Coefficient** Not applicable

**Water solubility**

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

**Other adverse effects**  
 No information available.

**13. DISPOSAL CONSIDERATIONS**

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#### 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 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.

### 14. TRANSPORT INFORMATION

#### U.S. DOT

**UN/ID no** UN3265  
**Proper shipping name** Corrosive liquid, acidic, organic, n.o.s  
**Hazard Class** 8  
**Packing Group** III  
**Emergency Response Guide Number** 153

#### TDG

**UN/ID no** UN3265  
**Proper shipping name** Corrosive liquid, acidic, organic, n.o.s  
**Hazard Class** 8  
**Packing Group** III

#### IATA

**UN/ID no** UN3265  
**Hazard Class** 8  
**Packing Group** III  
**ERG Code** 153

#### IMDG

**UN/ID no** UN3265  
**Hazard Class** 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

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**International Inventories**

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</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>	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)

<b>Chemical name</b>	<b>CWA - Reportable Quantities</b>	<b>CWA - Toxic Pollutants</b>	<b>CWA - Priority Pollutants</b>	<b>CWA - Hazardous Substances</b>
Propanoic acid 79-09-4	5000 lb	-	-	X

**CERCLA**

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

<b>Chemical name</b>	<b>Hazardous Substances RQs</b>	<b>CERCLA/SARA RQ</b>	<b>Reportable Quantity (RQ)</b>
Propanoic acid 79-09-4	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Propanoic acid 79-09-4	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Citric acid	180.0950	21 CFR 184.1033
Propanoic acid	180.0940	21 CFR 184.1081

**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 - X</b> - See section 8 for more information

**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

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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**