



Be Right™

SAFETY DATA SHEET

Issue Date 16-Aug-2016

Revision Date
08-May-2017

Version 3.1

Page 1 / 17

1. IDENTIFICATION

Product identifier

Product Name Citric Acid

Other means of identification

Product Code(s) 1454999

Safety data sheet number M00072

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent.

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
(970) 669-3050

Emergency telephone number

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

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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Warning



Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 2 / 17

Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Other Information

May be harmful if swallowed
May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Formula $C_6H_8O_7$
CAS No 77-92-9
Alternate CAS Number 5949-29-1 - Monohydrate

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Citric acid	77-92-9	100%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	IF IN EYES: Flush eyes for at least 15 minutes. May cause skin irritation.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	For minor skin contact, avoid spreading material on unaffected skin. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Remove and isolate contaminated clothing and shoes. Call a POISON CENTER or doctor if you feel unwell. If skin irritation persists, call a physician.
Inhalation	Aspiration into lungs can produce severe lung damage.
Ingestion	Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Remove from exposure, lie down. Call a POISON CENTER or doctor/physician if you feel unwell. Do not induce vomiting without medical advice.
Self-protection of the first aider	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: 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.

Flammable properties

Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective 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

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 4 / 17

should respond to a spill involving chemicals.

EC Notice

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

WHMIS Notice

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions, protective equipment and emergency procedures

Personal precautions

Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

For emergency responders

Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. 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. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number

Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

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.

Legend

See section 16 for terms and abbreviations

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 5 / 17

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs.

Environmental exposure controls

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

Gas Under Pressure Not classified according to GHS criteria

Appearance crystalline **Color** white

Odor Odorless **Odor threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	192.12 g/mole	
pH	Not applicable	Not applicable
Melting point/freezing point	153 °C / 307 °F	
Boiling point / boiling range	No data available	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	
Vapor density (air = 1)	Not applicable	
Specific gravity (water = 1 / air = 1)	1.67	
Partition Coefficient (n-octanol/water)	log K _{ow} = -1.72	
Soil Organic Carbon-Water Partition Coefficient	log K _{oc} = -1.16	

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 6 / 17

Autoignition temperature 540 °C / 1004 °F
Decomposition temperature 175 °C 347 °F
Dynamic viscosity Not applicable
Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Completely soluble	750000 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>
Acids	Soluble	> 1000 mg/L	25 °C / 77 °F
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Methanol	Soluble	> 1000 mg/L	25 °C / 77 °F
Benzene	Insoluble	< 0.1 mg/L	25 °C / 77 °F
Chloroform	Insoluble	< 0.1 mg/L	25 °C / 77 °F

Other Information

Metal Corrosivity Not classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate Not applicable

Aluminum Corrosion Rate Not applicable

Volatile Organic Compounds (VOC) Content Not applicable.

Bulk density No data available

Explosive properties Not classified according to GHS criteria.

Explosion data No data available

Upper explosion limit 64%

Lower explosion limit 18%

Flammable properties Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.

Flammability Limit in Air

Upper flammability limit: No data available

Lower flammability limit: No data available

Flash point Not applicable

Oxidizing properties Not classified according to GHS criteria.

Reactivity propeties Not classified as self-reactive, pyrophoric, self-heating or emitting

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 7 / 17

flammable gases in contact with water according to GHS criteria.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

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

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit

64%

Lower explosion limit

18%

Autoignition temperature

540 °C / 1004 °F

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number

GE7350000

Information on Likely Routes of Exposure

Product Information	Causes skin irritation. Causes serious eye irritation. May be harmful if swallowed. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. May be harmful in contact with skin.
Inhalation	No known effect based on information supplied.
Eye contact	Contact with eyes may cause irritation. Severely irritating to eyes.

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 8 / 17

Skin contact	Causes skin irritation. May be harmful in contact with skin.
Ingestion	May be harmful if swallowed. Ingestion may cause irritation to mucous membranes.
Aggravated Medical Conditions	Skin disorders. Eye disorders.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	This Product is by Weight 100% an Individual Pure Chemical Substance.

Product Acute Toxicity Data

This Product is by Weight 100% an Individual Pure Chemical Substance

Oral Exposure Route

If available, see ingredient data below

Dermal Exposure Route

If available, see ingredient data below

Inhalation (Dust/Mist) Exposure Route

If available, see ingredient data below

Inhalation (Vapor) Exposure Route

If available, see ingredient data below

Inhalation (Gas) Exposure Route

If available, see ingredient data below

Acute Toxicity Estimations (ATE)

Not applicable

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 (100%) CAS#: 77-92-9	Rat LD ₅₀	3000 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 (100%) CAS#: 77-92-9	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

Inhalation (Dust/Mist) Exposure Route

If available, see data below

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

If available, see ingredient data below

Dermal Exposure Route

If available, see ingredient data below

Inhalation (Dust/Mist) Exposure Route

If available, see ingredient data below

Inhalation (Vapor) Exposure Route

If available, see ingredient data below

Inhalation (Gas) Exposure Route

If available, see ingredient data below

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

If available, see data below

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 9 / 17

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 (100%) CAS#: 77-92-9	Rat TD _{Lo}	0.180 mg/L	None reported	Lungs, Thorax, or Respiration Other changes Liver Impaired liver function tests Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Aspiration toxicity

No data available

Kinematic viscosity

Not applicable

Product Skin Corrosion/Irritation Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

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
Citric acid (100%) CAS#: 77-92-9	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Serious Eye Damage/Eye Irritation Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

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
Citric acid (100%) CAS#: 77-92-9	Standard Draize Test	Rabbit	0.750 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

Respiratory Sensitization Exposure Route

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 10 / 17

Ingredient Sensitization Data

Skin Sensitization Exposure Route

No data available.

Respiratory Sensitization Exposure Route

No data available.

Chronic Toxicity Information

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route

If available, see ingredient data below.

Dermal Exposure Route

If available, see ingredient data below.

Inhalation (Dust/Mist) Exposure Route

If available, see ingredient data below.

Inhalation (Vapor) Exposure Route

If available, see ingredient data below.

Inhalation (Gas) Exposure Route

If available, see ingredient data below.

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 (100%) CAS#: 77-92-9	Rat TD _{Lo}	930 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) Blood Changes in serum composition (e.g. TP, bilirubin, cholesterol)	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

No data available

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 (100%) CAS#: 77-92-9	Rat TD _{Lo}	0.180 mg/L	None reported	Lungs, Thorax, or Respiration Other changes Liver Impaired liver function tests Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases)	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Citric acid	77-92-9	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 11 / 17

NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

Product Carcinogenicity Data

This Product is by Weight 100% an Individual Pure Chemical Substance

Oral Exposure Route

If available, see ingredient data below

Dermal Exposure Route

If available, see ingredient data below

Inhalation (Dust/Mist) Exposure Route

If available, see ingredient data below

Inhalation (Vapor) Exposure Route

If available, see ingredient data below

Inhalation (Gas) Exposure Route

If available, see ingredient data below

Ingredient 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

Product Germ Cell Mutagenicity *invitro* Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity *invitro* Data

No data available

Product Germ Cell Mutagenicity *invivo* Data

This Product is by Weight 100% an Individual Pure Chemical Substance.

Oral Exposure Route

If available, see ingredient data below

Dermal Exposure Route

If available, see ingredient data below

Inhalation (Dust/Mist) Exposure Route

If available, see ingredient data below

Inhalation (Vapor) Exposure Route

If available, see ingredient data below

Inhalation (Gas) Exposure Route

If available, see ingredient data below

Ingredient Germ Cell Mutagenicity *invivo* 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

Product Reproductive Toxicity Data

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 12 / 17

This Product is by Weight 100% an Individual Pure Chemical Substance.

Oral Exposure Route If available, see ingredient data below

Dermal Exposure Route If available, see ingredient data below

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

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

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

Ingredient 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

12. ECOLOGICAL INFORMATION

Ecotoxicity Based on the classification principles, not classified as hazardous to the environment.

Product Ecological Data This Product is by Weight 100% an Individual Pure Chemical Substance

Aquatic toxicity

Fish If available, see ingredient data below

Crustacea If available, see ingredient data below

Algae If available, see ingredient data below

Terrestrial toxicity

Soil If available, see ingredient data below

Vertebrates If available, see ingredient data below

Invertebrates If available, see ingredient data below

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 (100%) CAS#: 77-92-9	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	1516 mg/L	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Citric acid (100%)	48 hours	<i>Leuciscus idus Melanotus</i>	LC ₅₀	440 mg/L	IUCLID (The International Uniform Chemical Information

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 13 / 17

CAS#: 77-92-9					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
Citric acid (100%) CAS#: 77-92-9	72 hours	<i>Daphnia magna</i>	EC ₅₀	120 mg/L	IUCLID (The International Uniform Chemical Information Database)

Algae

No data available

Terrestrial toxicity

Soil

No data available

Vertebrates

No data available

Invertebrates

No data available

Other Information

Persistence and degradability

Readily biodegradable according to the GHS criteria.

Product Biodegradability Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

Ingredient Biodegradability Data

Test data reported below

Chemical Name	Test method	Biodegradation	Exposure time	Results
Citric acid (100%) CAS#: 77-92-9	None reported	None reported	None reported	Readily biodegradable

Bioaccumulation

Does not have the potential to bioaccumulate according to GHS criteria.

Product Bioaccumulation Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

Ingredient Bioaccumulation Data

No data available

Chemical Name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Citric acid (100%) CAS#: 77-92-9	None reported	None reported	None reported	None reported	Does not have the potential to bioaccumulate

Additional information

Product Information

Partition Coefficient (n-octanol/water)

log K_{ow} = -1.72

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 14 / 17

Ingredient Information

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Citric acid (100%) CAS#: 77-92-9	log K _{ow} = -1.72	No information available

Mobility

Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient log K_{oc} = -1.16

Ingredient Information

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Citric acid (100%) CAS#: 77-92-9	log K _{oc} = -1.16	No information available

Additional information

Water solubility

Product Information

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Completely soluble	750000 mg/L	25 °C / 77 °F

Ingredient Information

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Citric acid CAS#: 77-92-9	Completely soluble	750000 mg/L	25 °C	77 °F

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging

Do not reuse container.

US EPA Waste Number

D002

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 15 / 17

14. TRANSPORT INFORMATION

U.S. DOT

Proper shipping name Not Currently Regulated

TDG

Proper shipping name Not Currently Regulated

IATA

Proper shipping name Not Currently Regulated

IMDG

Proper shipping name Not Currently Regulated

Additional information

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

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

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

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

15. REGULATORY INFORMATION

National Inventories

TSCA Complies

DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies

ENCS Complies

IECSC Complies

KECL Complies

PICCS Complies

TCSI Complies

AICS Complies

NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

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

SARA 311/312 Hazard Categories

Acute health hazard Yes

Chronic Health Hazard Yes

Fire hazard No

Product Code(s) 1454999
Issue Date 16-Aug-2016
Version 3.1

Product Name Citric Acid
Revision Date 08-May-2017
Page 16 / 17

Sudden release of pressure hazard
Reactive Hazard

No
No

CWA (Clean Water Act)

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

CERCLA

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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

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 - 2	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 2	Flammability - 0	Physical Hazards - 0	Personal protection - X - See section 8 for more information

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

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

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

Product Code(s) 1454999
Issue Date 16-Aug-2016
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Product Name Citric Acid
Revision Date 08-May-2017
Page 17 / 17

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.

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End of Safety Data Sheet