



# Fisher Scientific

Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 04-Sep-2009

Revision Date 21-Feb-2014

Revision Number 1

### 1. Identification

**Product Name** Citric acid monohydrate

**Cat No. :** A104-3; A104-10; A104-10LC; A104-250LB; A104-500; A110-3; A110-10; A110-10LC; A110-50; A110-500; A111-12; A111-212; A111SAM-1; A111SAM-2; A111SAM-3

**Synonyms** (Granular/Crystalline/Certified ACS/USP/EP/BP/JP)

**Recommended Use** Laboratory chemicals

**Uses advised against** No Information available

#### Details of the supplier of the safety data sheet

<b>Company</b>	<b>Emergency Telephone Number</b>
Fisher Scientific	CHEMTREC®, Inside the USA: 800-424-9300
One Reagent Lane	CHEMTREC®, Outside the USA: 001-703-527-3887
Fair Lawn, NJ 07410	
Tel: (201) 796-7100	

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	

#### Label Elements

##### **Signal Word**

Warning

##### **Hazard Statements**

Causes serious eye irritation  
May cause respiratory irritation



**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Wear eye/face protection

**Eyes**

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.

**Hazards not otherwise classified (HNOC)**

May form combustible dust concentrations in air

### 3. Composition / information on ingredients

**Haz/Non-haz**

Component	CAS-No	Weight %
Citric acid monohydrate	5949-29-1	>95
Citric acid	77-92-9	-

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur..
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur..
<b>Ingestion</b>	Do not induce vomiting. Obtain medical attention.
<b>Most important symptoms/effects</b>	No information available
<b>Notes to Physician</b>	Treat symptomatically.

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Flash Point</b>	174°C / 345°F
<b>Method -</b>	No information available.
<b>Autoignition Temperature</b>	345°C / 653°F
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Oxidizing Properties</b>	Not oxidising
<b>Sensitivity to mechanical impact</b>	No information available.
<b>Sensitivity to static discharge</b>	No information available.

**Specific Hazards Arising from the Chemical**

Dust can form an explosive mixture in air. Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

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

**NFPA**

**Health**  
2

**Flammability**  
1

**Instability**  
0

**Physical hazards**  
N/A

## 6. Accidental release measures

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional ecological Information.
<b>Methods for Containment and Clean Up</b>	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice

## 9. Physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	White
<b>Odor</b>	odorless
<b>Odor Threshold</b>	No information available.
<b>pH</b>	2.2 0.1N in water

## 9. Physical and chemical properties

Melting Point/Range	135 - 152°C / 275 - 305.6°F
Boiling Point/Range	No information available.
Flash Point	174°C / 345°F
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available.
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available.
Vapor Density	Not applicable
Relative Density	1.54 g/cm <sup>3</sup> (20 °C)No information available.
Bulk Density	550 - 950 kg/m <sup>3</sup> (20 °C)
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	345°C / 653°F
Decomposition temperature	> 170°C
Viscosity	Not applicable
Molecular Formula	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub> . H <sub>2</sub> O
Molecular Weight	210.15

## 10. Stability and reactivity

Reactive Hazard	None known, based on information available.
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat. Temperatures above 170°C. Avoid dust formation.
Incompatible Materials	Strong oxidizing agents, Strong bases
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

LD50 Oral VALUE                      11,700 mg/kg (rat)

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid monohydrate	5.79 g/kg ( Mouse )	Not listed	Not listed
Citric acid	3000 mg/kg ( Rat )	>2 g/kg ( Rat )	Not listed

**Toxicologically Synergistic Products**                      No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation**                                      Severe eye irritant;

**Sensitization**                                No information available.

**Carcinogenicity**                            The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Citric acid monohydrate	5949-29-1	Not listed				
Citric acid	77-92-9	Not listed				

<b>Mutagenic Effects</b>	No information available.
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>STOT - single exposure</b>	Respiratory system.
<b>STOT - repeated exposure</b>	None known.
<b>Aspiration hazard</b>	No information available.
<b>Symptoms / effects, both acute and delayed</b>	No information available.
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Citric acid	Not listed	Leuciscus idus: LC50 = 440-760 mg/L/96h	Photobacterium phosphoreum: EC50 = 14 mg/L/15 min	EC50 = 120 mg/L/72h

<b>Persistence and Degradability</b>	Soluble in water, Persistence is unlikely, based on information available.
<b>Bioaccumulation/ Accumulation</b>	No information available
<b>Mobility</b>	. Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Citric acid monohydrate	-1.72
Citric acid	-1.72

## 13. Disposal considerations

<b>Waste Disposal Methods</b>	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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## 14. Transport information

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

## 14. Transport information

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Citric acid monohydrate	-	X	-	-	-		X	X	X	X	-
Citric acid	X	X	-	201-069-1	-		X	X	X	X	X

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

**TSCA 12(b)** Not applicable

**SARA 313** Not applicable

#### SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act** Not applicable

**Clean Air Act** Not applicable

**OSHA** Occupational Safety and Health Administration  
Not applicable

**CERCLA**  
Not Applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals.

**State Right-to-Know** Not applicable

#### U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

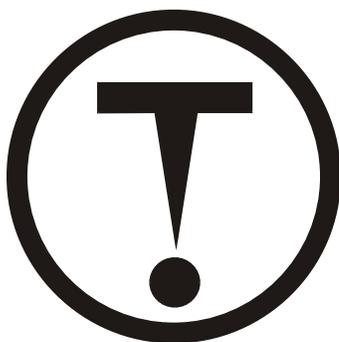
**Other International Regulations**

**Mexico - Grade** Slight risk, Grade 1

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class** D2B Toxic materials



## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date** 04-Sep-2009

**Revision Date** 21-Feb-2014

**Print Date** 21-Feb-2014

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**