Citric acid monohydrate

MSDS# 84211

Section 1 - Chemical Product and Company Identification

MSDS Name: Citric acid monohydrate
Catalog Numbers:
12491-0000, 12491-0010, 12491-0250, 12491-2500, 38585-0000, BP/C270/71, C/6160/53, C/6160/60, C/6160/62, C/6160/65, C/6160/68, C/6160/70,
C/6160/71 C/6170/53, C/6170/60, C/6170/62, C/6170/65, C/6180/53, C/6200/53, C/6200/60
C/6200/62, C/6200/65, C/6200/70, C/6200/71, C/6230/53, C/6230/60
C/P330/53, C/P330/60

Synonyms: 2-Hydroxy-1,2,3-propanetricarboxylic acid monohydrate.
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

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CAS#: 5949-29-1
Chemical Name: Citric acid monohydrate
%
>97
EINECS#: unlisted

Hazard Symbols:
Risk Phrases: see Section 16

Text for R-phrases: see Section 16

Hazard Symbols: XI
Risk Phrases: 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritating to eyes, respiratory system and skin.

Potential Health Effects

Eye:
Causes severe eye irritation and possible injury.

Skin:
Causes skin irritation.

Ingestion:
May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Excessive intake of citric acid may cause erosion of the teeth.

Inhalation:
Causes respiratory tract irritation.

Chronic:
Repeated exposure may cause erosion of teeth. Chronic exposure may cause effects similar to those of acute exposure.

Section 4 - First Aid Measures

Eyes:
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin:
In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion:
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIO SH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing Media:
Use water spray, dry chemical, carbon dioxide, or chemical foam.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Spill may be carefully neutralized with lime (calcium oxide, CaO).

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Avoid ingestion and inhalation. Do not get in eyes. Avoid contact with skin and clothing.

Storage:
Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits
CAS# 77-92-9:
CAS# 5949-29-1:

Personal Protective Equipment

Eyes:
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.

**Skin:**
Wear appropriate protective gloves to prevent skin exposure.

**Clothing:**
Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**
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.

### Section 9 - Physical and Chemical Properties

**Physical State:** Crystalline powder  
**Color:** white  
**Odor:** Odorless  
**pH:** 2.2 (0.1N soln)  
**Vapor Pressure:** 3.70E-009 mm Hg @ 25 deg C  
**Viscosity:** Not available  
**Boiling Point:** 175 deg C (347.00 F)  
**Freezing/Melting Point:** 100 deg C (212.00 F)  
**Autoignition Temperature:** 1010 deg C (1,850.00 deg F)  
**Flash Point:** Not applicable  
**Explosion Limits: Lower:** Not available  
**Explosion Limits: Upper:** Not available  
**Decomposition Temperature:**  
**Solubility in water:** Freely Soluble  
**Specific Gravity/Density:** 1.542 g/cm3  
**Molecular Formula:** C6H8O7.H2O  
**Molecular Weight:** 210.15

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Dust generation, moisture.  
**Incompatibilities with Other Materials**  
Metals, strong oxidizing agents, strong reducing agents, strong bases, metal nitrates.  
**Hazardous Decomposition Products**  
Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.  
**Hazardous Polymerization**  
Will not occur.

### Section 11 - Toxicological Information

**RTECS#:**  
**CAS# 77-92-9:** GE7350000  
**CAS# 5949-29-1:** GE7810000  
**LD50/LC50:**  
**RTECS:** CAS# 77-92-9: Draize test, rabbit, eye: 750 ug/24H  
Severe; Draize test, rabbit, skin: 500 mg/24H Mild; Oral, mouse: LD50 = 5040 mg/kg; Oral, rat: LD50 = 3 gm/kg;  
**RTECS:** CAS# 5949-29-1:.  
**Carcinogenicity:**  
Citric acid anhydrous - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Citric acid monohydrate -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:
See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Not available

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information
IATA
Shipping Name: Not regulated.
Hazard Class:
UN Number:
Packing Group:

IMO
Shipping Name: Not regulated.
Hazard Class:
UN Number:
Packing Group:

RID/ADR
Shipping Name: Not regulated.
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XI
Risk Phrases:
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)
CAS# 77-92-9: 0
CAS# 5949-29-1: 0

Canada
CAS# 77-92-9 is listed on Canada's DSL List
CAS# 5949-29-1 is listed on Canada's DSL List

US Federal
TSCA
CAS# 77-92-9 is listed on the TSCA Inventory.
CAS# 5949-29-1 is not on the TSCA Inventory because it is a hydrate.
It is considered to be listed if the CAS number for the anhydrous form in on the

Section 16 - Other Information
Text for R-phrases from Section 2
MSDS Creation Date:
2/09/1999
Revision #9 Date
5/16/2007
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or
implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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