



## Material Safety Data Sheet

Catalog Number: 154989

Revision date: 12/06/2002

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY INFORMATION

Catalog Number: 154989

Product name: (-)-CITRAMALIC ACID

**Supplier:**

ICN Biomedicals  
1263 S. Chillicothe Rd.  
Aurora, OH 44202  
tel: 330-562-1500

Emergency telephone number: CHEMTREC: 1-800-424-9300 (1-703-527-3887)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

154989

Components	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA Exposure Limits:
(-)-CITRAMALIC ACID	6236-10-8	100%	None	None

### 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** May cause skin irritation and/or dermatitis

**Principle routes of exposure:** Skin

**Inhalation:** May cause irritation of respiratory tract

**Ingestion:** May be harmful if swallowed.

**Skin contact:** May cause allergic skin reaction

**Eye contact:** Avoid contact with eyes

**Statements of hazard** MAY CAUSE ALLERGIC SKIN REACTION

**Statement of Spill or Leak - ANSI Label** Eliminate all ignition sources. Absorb and/or contain spill with inert materials (e.g., sand, vermiculite). Then place in appropriate container. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.

### 4. FIRST AID MEASURES

**General advice:** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Inhalation:** Move to fresh air. Call a physician immediately.

**Skin contact:** Rinse immediately with plenty of water and seek medical advice

**Ingestion:** Do not induce vomiting without medical advice.

**Eye contact:** In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Protection of first-aiders:** No information available

**Medical conditions aggravated by exposure:** None known

### 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:**

Use dry chemical, CO<sub>2</sub>, water spray or "alcohol" foam

**Specific hazards:**

Burning produces irritant fumes.

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<b>Unusual hazards:</b>	None known
<b>Special protective equipment for firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
<b>Specific methods:</b>	Water mist may be used to cool closed containers.
<b>Flash point:</b>	Not determined
<b>Autoignition temperature:</b>	Not determined
<b>NFPA rating:</b>	
NFPA Health:	1
NFPA Flammability:	1
NFPA Reactivity:	0

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Use personal protective equipment.
<b>Environmental precautions:</b>	Prevent product from entering drains.
<b>Methods for cleaning up:</b>	Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

**Storage:**  
ROOM TEMPERATURE

<b>Handling:</b>	Use only in area provided with appropriate exhaust ventilation.
<b>Safe handling advice:</b>	Wear personal protective equipment.
<b>Incompatible products:</b>	Oxidising and spontaneously flammable products

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures:** Ensure adequate ventilation.

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory protection:** Breathing apparatus only if aerosol or dust is formed.

**Hand protection:** Pvc or other plastic material gloves

**Skin and body protection:** Usual safety precautions while handling the product will provide adequate protection against this potential effect.

**Eye protection:** Safety glasses with side-shields

**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Powder
<b>Formula:</b>	C <sub>5</sub> H <sub>8</sub> O <sub>5</sub>
<b>Molecular weight:</b>	148.1
<b>Boiling point/range:</b>	No Data available at this time.
<b>Melting point/range:</b>	No data available at this time.
<b>Density:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Solubility (in water):</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under recommended storage conditions.
<b>Polymerization:</b>	None under normal processing.
<b>Hazardous decomposition products:</b>	Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.
<b>Materials to avoid:</b>	Strong oxidising agents
<b>Conditions to avoid:</b>	Exposure to air or moisture over prolonged periods.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

#### Acute toxicity

##### Components

(-)-CITRAMALIC ACID

#### RTECS Number:

Not Available

#### NIOSH - Selected LD50s and LC50s

Not Determined

<b>Chronic toxicity:</b>	Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.
<b>Local effects:</b>	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
<b>Specific effects:</b>	May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.
<b>Primary irritation:</b>	No data is available on the product itself.
<b>Carcinogenic effects:</b>	No data is available on the product itself.
<b>Mutagenic effects:</b>	No data is available on the product itself.
<b>Reproductive toxicity:</b>	No data is available on the product itself.

## 12. ECOLOGICAL INFORMATION

<b>Mobility:</b>	No data available
<b>Bioaccumulation:</b>	No data available
<b>Ecotoxicity effects:</b>	No data available
<b>Aquatic toxicity:</b>	May cause long-term adverse effects in the aquatic environment.

<b>Components</b>	<b>U.S. DOT - Appendix B - Marine Pollutan</b>	<b>U.S. DOT - Appendix B - Severe Marine Pollutants</b>	<b>United Kingdom - The Red List:</b>
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed
<b>Components</b>	<b>Germany VCI (WGK)</b>	<b>World Health Organization (WHO) - Drinking Water</b>	<b>Ecotoxicity - Fish Species Data</b>
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed
<b>Components</b>	<b>Ecotoxicity - Freshwater Algae Data</b>	<b>Ecotoxicity - Microtox Data</b>	<b>Ecotoxicity - Water Flea Data</b>
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed
<b>Components</b>	<b>EPA - ATSDR Priority List</b>	<b>EPA - HPV Challenge Program Chemical List</b>	<b>California - Priority Toxic Pollutants</b>
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed
<b>Components</b>	<b>California - Priority Toxic Pollutants</b>	<b>California - Priority Toxic Pollutants</b>	
(-)-CITRAMALIC ACID	Not Listed	Not Listed	

### 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**

Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

**Contaminated packaging:**

Do not re-use empty containers

### 14. TRANSPORT INFORMATION

**UN/Id No:**

Not regulated

**DOT:****Proper shipping name:**

Not Regulated

**Hazard Class**

None

**Packing group:**

None

**Components**

(-)-CITRAMALIC ACID

**CERCLA/SARA - Reportable Quantities**

Not Listed

**TDG (Canada):****WHMIS hazard class:**

Non-controlled

**IMDG/IMO****Proper shipping name:**

None

**Components**

(-)-CITRAMALIC ACID

**IMDG - Hazard Classifications**

Not Applicable

**IMDG - Marine Pollutants**

Not Applicable

**IMDG - Potential Marine Pollutants**

Not Applicable

**Components**

(-)-CITRAMALIC ACID

**IMDG - Regulated Substances**

Not Applicable

**IMDG - Severe Marine Pollutants**

Not Applicable

**U.S. DOT - Appendix B - Marine Pollutants**

Not Listed

**U.S. DOT - Appendix B - Severe Marine Pollutants**

Not Listed

**IMO-labels:****Maximum quantity:**

No data available

### 15. REGULATORY INFORMATION

**International Inventories****Components**

**Philippines PICCS:** Listed

(-)-CITRAMALIC ACID

**U.S. regulations:**

Components	California Proposition 65 -	Massachusetts Right to Know List:	New Jersey Right to Know List:	Pennsylvania Right to Know List:
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed	Not Listed
Components	Florida substance List:	Rhode Island Right to Know List:	Illinois - Toxic Air Contaminants	Connecticut - Hazardous Air Pollutants
(-)-CITRAMALIC ACID	Not Listed	Not Listed	Not Listed	Not Listed
Components	SARA 313 Emission reporting/Toxic Release of Chemicals	CERCLA/SARA - Section 302 Extremely Haz	NTP:	IARC:
(-)-CITRAMALIC ACID	Not Listed	Not Listed	None	None

**SARA 313 Notification:**

The above is your notification as to the SARA 313 listing for this product(s) pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

If you are unsure if you are subject to the reporting requirements of Section 313, or need more information, please call the EPA Emergency Planning and Community Right-To-Know Information Hotline: (800) 535-0202 or (202) 479-2499 (in Washington, DC or Alaska).

**State Notification:**

The above information is your notice as to the Right-to-Know listings of the stated product(s). Individual states will list chemicals for a variety of reasons including, but not limited to, the compounds toxicity; carcinogenic, tumorigenic and/or reproductive hazards; and the compounds environmental impact if accidentally released.

<b>16. OTHER INFORMATION</b>
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**Prepared by:** Health & Safety

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**End of Safety Data Sheet**