

DATE: 08/22/03  
INDEX: R3233164

ACCT: 916715044  
CAT NO: A61100

PO NBR: 81928

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\*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

L-Ascorbic acid

12385

\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MDSD Name: L-Ascorbic acid  
Catalog Numbers: 51217, 51218, A61-25, A6125LC, A62-12, A62-25, A62-500, 51233-C, 51233-500, NC9557991, XK861-1KG  
Synonyms: Ascorbic acid; 3-Keto-L-glucofuranolactone; Vitamin C; L-3-keto-threo-hexuronic acid lactone  
Company Identification: Fisher Scientific  
1 Reagent Lane  
Fairlawn, NJ 07410  
For information, call: 201-796-7100  
Emergency Number: 201-796-7100  
For CHEMREAC assistance, call: 800-424-9300  
For International CHEMREAC assistance, call: 703-527-3887

\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

CAS#	Chemical Name	%	EINECS#
50-81-7	L-Ascorbic acid	99	200-066-2

Hazard Symbols: None Listed.  
Hazard Phrases: None Listed.

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Appearance: white to yellow crystals.  
Caution: Light sensitive. Air sensitive. This is expected to be a low hazard for usual industrial handling. Strong reducing agent.  
Eye: May cause eye irritation.  
Skin: May cause eye irritation.  
Target Organs: None.

Potential Health Effects

Eye: May cause eye irritation.  
Skin: May cause skin irritation. Low hazard for usual industrial handling.  
Ingestion: Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling. Large doses may cause diarrhea and acidification of the urine which may cause stones in the urinary tract.  
Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.  
Chronic: No information found.

\*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.  
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.  
Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupsfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.  
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.  
Notes: Treat symptomatically and

\*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective clothing. Gases may be generated by thermal decomposition or combustion. Gases may be generated in sufficient quantity and reduced particle size is capable of creating a dust explosion. Powerful reducing agent.

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Extinguishing Media: Auto-ignition extinguishing media most appropriate for the surrounding fire. Flash Point: Temperature 1320 deg C ( 2400.00 deg F) Not available. Explosion Limits, Lower: Not available. Explosion Limits, Upper: Not available. NFPA Rating: (estimated) Health: 1; Flammability: 1; Instability: 0

\*\*\*\* 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. Avoid generating dusty conditions. Provide ventilation.

\*\*\*\* SECTION 7 - HANDLING AND STORAGE \*\*\*\*

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Use with adequate ventilation. Avoid breathing dust.  
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture. Store protected from light. Store under an inert atmosphere.

\*\*\*\* 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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
L-Ascorbic acid	none listed	none listed	none listed

OSHA Vacated PELs:

L-Ascorbic acid:  
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyewear 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 minimize contact with skin.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

\*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State: Crystals  
Color: white to yellow  
Odor: none reported  
pH: 2.1-2.6 (5% soln)  
Vapor Pressure: Not available.  
Vapor Density: Not available.  
Evaporation Rate: Not available.  
Volatility: Not available.  
Boiling Point: 190 deg C (dec)  
Decomposition Temperature: 190 deg C  
Solubility in water: Soluble.  
Specific Gravity/Density: 1.65  
Molecular Formula: C6H8O6  
Molecular Weight: 176.13

\*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability: Stable to air when dry; aqueous solutions are rapidly oxidized by air.

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Conditions to Avoid:  
High heat generation, excess heat, moist air.  
Incompatibilities with Other Materials:  
Strong oxidizing agents.  
Hazardous Decomposition Products:  
Carbon monoxide, Carbon dioxide.  
Hazardous Polymerization: Will not occur.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#:  
CAS# 50-81-7: C17650000  
LD50/LC50:  
CAS# 50-81-7: Oxal, mouse: LD50 = 3367 mg/kg; Oral, rat: LD50 = 11900 mg/kg.  
Coenzyme for a number of hydroxylation reactions; required for collagen synthesis. Inadequate intake results in deficiency syndromes such as scurvy.

Carcinogenicity:  
L-Not listed -  
Epidemiology:  
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
No information available.

Teratogenicity:  
Teratogenic effects have occurred in humans.

Reproductive Effects:  
No information available.

Neurotoxicity:  
No information available.

Mutagenicity:  
No information available.

Other Studies:  
No information available.

See actual entry in RTECS for complete information.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.  
US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
RCRA P-Series: None listed.  
RCRA U-Series: None listed.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT  
No information available  
Canadian TDG  
No information available.

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

US FEDERAL  
TSCA

CAS# 50-81-7 is listed on the TSCA inventory.  
Health & Safety Reporting List  
None of the chemicals are on the Health & Safety Reporting List.  
Chemical Test Rules  
None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b  
None of the chemicals are listed under TSCA Section 12b.  
TSCA Significant New Use Rule  
None of the chemicals in this material have a SNUR under TSCA.

SARA  
None of the chemicals are reportable under Section 313.  
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Clean Air Act:  
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None of the chemicals are reportable under Section 340.

Clean Water Act:  
None of the chemicals in this product are listed as Hazardous Substances under the CWA.  
None of the chemicals in this product are listed as Priority Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA: None of the chemicals in this product are considered highly hazardous 6.226

STATE  
by OSHA.

L-Ascorbic acid is not present on state lists from CA, PA, NY, MA, FL, or NJ.  
California No Significant Risk Level:  
None of the chemicals in this product are listed.  
European/International Regulations  
European Labeling in Accordance with EC Directives  
Hazard Symbols: Not available.  
Risk Phrases: Not available.

Safety Phrases:  
S 24/25 Avoid contact with skin and eyes.  
WGK (Water Danger/Protection)  
CAS# 50-81-7: 0

United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada

CAS# 50-81-7 is listed on Canada's DSL List.  
This product has a WHMIS classification. Not controlled.  
CAS# 50-81-7 is not listed on Canada's Ingredient Disclosure List.  
Exposure Limits

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

MSDS Creation Date: 7/13/1999 Revision #4 Date: 4/08/2003

The information above is believed to be accurate and represents the best information currently available to the manufacturer with respect to merchantability 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 way shall the company be liable for any claims, losses, or damages of any third party or for lost profits, however arising, even if the company has been advised of the possibility of such damages.