

Valudor Products

SAFETY DATA SHEET

SECTION 1: PRODUCT IDENTIFICATION

Product Name	Sodium Citrate
Chemical Name	Trisodium Citrate Dihydrate
Supplier	Valudor Products, LLC 179 Calle Magdalena Suite 100 Encinitas, CA 92024
Telephone	(760) 635 8500
Emergency Telephone	(800) 535 5053

SECTION 2: HEALTH HAZARD INFORMATION

Not considered a hazardous substance according to OSHA 29 CFR 1910.1200.

Signal Word: None

Pictograms: None

GHS Classification: None

Flammability: 1

Toxicity: 0

Body Contact: 0

Reactivity: 1

Chronic: 0

Chronic Health Effects

Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified using animal models); nevertheless exposure by all routes should be minimized as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung

Potential Health Effects

Swallowed	The material has NOT been classified as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
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Eye	Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Skin	The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS.

Component	CAS-NO	Weight %
Sodium Citrate	6132-04-3	>95

SECTION 4: FIRST AID MEASURES

Ingestion	Immediately give a glass of water. · First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.
Skin	If skin or hair contact occurs: · Flush skin and hair with running water (and soap if available). · Seek medical attention in event of irritation.
Eyes	If this product comes in contact with eyes: · Wash out immediately with water. · If irritation continues, seek medical attention.
Inhalation	If fumes or combustion products are inhaled remove from contaminated area. · Other measures are usually unnecessary.

SECTION 5: FIRE-FIGHTING MEASURES

Vapour Pressure (mmHG): Negligible
Upper Explosive Limit (%): Not available.
Specific Gravity (water=1): 1.76
Lower Explosive Limit (%): Not available.

Extinguishing Media Foam. Dry chemical powder

Fire Fighting Alert Emergency Responders and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

General Fire Hazards/Hazardous Combustible Products Combustible solid which burns but propagates flame with difficulty. Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited. Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), other pyrolysis products typical of burning organic material.

Fire Incompatibility Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Minor Spills Clean up all spills immediately.
Avoid contact with skin and eyes.

Major Spills Clear area of personnel and move upwind.
Alert Emergency Responders and tell them location and nature of hazard.

SECTION 7: HANDLING AND STORAGE

Handling Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.
Do NOT cut, drill, grind or weld such containers.
In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorization or permit.

Recommended Storage Methods Lined metal can, Lined metal pail/drum. Plastic pail.

Storage Requirements Observe manufacturer's storing and handling recommendations.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION INFORMATION

Engineering Controls Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powered by mutual friction. Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

Personal Protection
RESPIRATOR: Consult your EHS staff for recommendations.
EYE: Safety glasses with side shields. Chemical goggles.
HANDS/FEET: Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as: frequency and duration of contact, chemical resistance of glove material, glove thickness and dexterity.
Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

- Contaminated gloves should be replaced. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene
- nitrile rubber
- butyl rubber
- fluorocautchouc
- polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White, odorless crystals, granules or powder. Highly soluble in water. Solubility = 720 gram /liter. Cool, saline taste. Insoluble in alcohol. Reverts to anhydrous form above 150 deg. C.
State	Solid. Divided solid. Mixes with water.
Melting Range (°F)	302 loses water
Specific Gravity	1.76
pH (1% solution)	Approx. 8
Decomposition Temp (°F)	446
Volatile Component (%vol)	Nil @ 38 C.
Molecular Weight	294.10 hydrate
Solubility	Soluble

SECTION 10: STABILITY

Conditions Contributing To Instability	Product is considered stable and hazardous polymerization will not occur
Storage Incompatibility	Avoid contamination of water, foodstuffs, feed or seed. Avoid reaction with oxidizing agents. For incompatible materials - refer to Section 7 - Handling and Storage.

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity And Irritation	Unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances. Intravenous (rabbit) LD50: 449 mg/kg For citric acid (and its inorganic citrate salts) Based on many experimental data in animals and on human experience, citric acid is of low acute toxicity. The NOAEL for repeated dose toxicity for rats is 1200 mg/kg/d. The major, reversible (sub) chronic toxic effects seem to be limited to changes in blood chemistry and metal absorption/excretion kinetics. Citric acid is not suspected of being a carcinogen nor a reprotoxic or teratogenic agent. The NOAEL for reproductive toxicity for rats is 2500 mg/kg/d. Further, it is not mutagenic in vitro and in vivo. Also, the sensitizing potential is seen as low. In contrast, irritation, in particular of the eyes but also of the respiratory pathways and the skin, is the major toxicological hazard presented by citric acid.
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SECTION 12: ECOLOGICAL INFORMATION

No data.

SECTION 13: DISPOSAL INFORMATION

Waste Disposal Methods

All waste must be handled in accordance with local, state and federal regulations. Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. A Hierarchy of Controls seems to be common - the user should investigate:

Reduction, Reuse, Recycling, Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

Recycle wherever possible.

Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

SECTION 14: TRANSPORT INFORMATION

Not Regulated For Transport of Dangerous Goods: DOT, IATA, IMDG

SECTION 15: OTHER REGULATORY INFORMATION

Sodium citrate (CAS: 6132-04-3) is found on the following regulatory lists –

"Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "OECD Representative List of High Production Volume (HPV) Chemicals", "US DOE Temporary Emergency Exposure Limits (TEELs)"

SECTION 16: OTHER INFORMATION

All information in this MSDS was obtained from sources we believe are reliable. However, the information is provided without any warranty or representation, expressed or implied, regarding its accuracy.