Safety Data Sheet

Revision Date: *19-Oct-2020* **Revision Number:** *3*

1. Identification

Product Name:
Sodium Citrate Dihydrate
Synonyms:
Trisodium 2-hydroxypropane-1,2,3, tricarboxylate dihydrate.
CAS: 6132-04-3. CAS: 68-04-2.

Product Code:
042410, 042420, 042440
Use of the Substance / Preparation:
Food additive. Industrial use.

Supplier:
Archer Daniels Midland Company
4666 Faries Parkway
Decatur, IL 62526, USA
Telephone Number: (+1) 217-424-5200

Emergency response telephone number:
Chemtrec 1-800-424-9300 (CCN 1635)

2. Hazard(s) identification

Emergency Overview

Health injuries are not known or expected under normal use. May form combustible dust concentrations in air (during processing and handling).

Appearance	Physical State	Odor
Colorless to White	Powder / Crystalline Granules	Odorless

This product IS classified as hazardous according to 29 CFR 1910.1200 (known as HCS 2012), amended to conform to the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Depending on the intended use, this product is classified as hazardous according to the criteria contained in the Hazardous Products Regulations (SOR/2015-17), also known as WHMIS 2015.

NOTE: Certain products covered under other Canadian legislation, including but not limited to cosmetics, devices, drugs or food (as defined in the Food and Drugs Act), pest control products (as defined in the Pest Control Products Act), consumer products (as defined in the Canada Consumer Product Safety Act), and Hazardous waste (being a hazardous product that is sold for recycling or recovery and is intended for disposal), are NOT subject to the label and SDS requirements of the Hazardous Products Regulations (SOR/2015-17), also known as WHMIS 2015. As supplied for use in food, an SDS and WHMIS compliant labeling are NOT required for this product. Since Canadian employers must still provide education and training on health effects, safe use, and storage, and in the interest of providing relevant product information to our customers, this SDS is being provided on a voluntary basis.

OSHA Defined Hazard(s)	Combustible Dust
HPR Defined Hazard(s)	Combustible Dust

Label Elements

NOTE: While label elements are provided within this SDS, under 29 CFR 1910.1200 (b)(5), products already subject to the labeling requirements of other specified federal acts, may be exempt from OSHA labeling.

Signal Word:	Warning
Hazard Statement(s):	May form combustible dust concentrations in air.

3. Composition/information on ingredients

Chemical nature of the preparation Substance

Chemical Family Esters.
Molecular Formula $Na_3C_6H_5O_7 \cdot 2H_2O$

Non-hazardous Components

Chemical Name	CAS-No	Weight %	North American Substance Hazard Class
Citrate, sodium, dihydrate	6132-04-3	100	None known

4. First-aid measures

Description of first aid measures
Eye Contact Rinse thoroughly with plenty of water, also under the eyelids.
Skin Contact Wash off with warm water and soap.
Inhalation Move to fresh air.
Ingestion Clean mouth with water and afterwards drink plenty of water.
General Advice When symptoms persist or in all cases of doubt seek medical advice.

Most important symptoms and affects, both acute and delayed
Eyes Contact with eyes may cause mechanical irritation.
Skin Product dust may cause mild, mechanical irritation.
Inhalation Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".
Ingestion Health injuries are not known or expected under normal use.

Indication of any immediate medical attention and special treatment needed
Notes to Physician Special forms of treatment and immediate medical attention are not specified. Treat Symptomatically.

5. Fire-fighting measures

Flammable Properties
As with most organic solids, combustion is possible at elevated temperatures or by contact with an ignition source. Fine dust dispersed in air may ignite. Risk of ignition followed by flame propagation or secondary explosions should be prevented by avoiding accumulation of dust, e.g. on floors and ledges.

Extinguishing media
Suitable Extinguishing Media Water. Carbon dioxide (CO_2). Foam. Dry powder. Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media No information available.

Special hazards arising from the substance or mixture
Hazardous Combustion Products Carbon monoxide (CO), Carbon dioxide (CO_2).
Specific Hazards Arising from the Chemical None known.
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge Yes. (as dust).

Advice for fire-fighters
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.

NFPA

Health 0
Flammability 1
Stability and Reactivity 0
Physical hazard None known

6. Accidental release measures

Personal Precautions, Protective Equipment, and Emergency Procedures
Ensure adequate ventilation. Avoid dust formation. Avoid sparks, flames, static electricity discharges, etc. in the presence of dust.
Environmental Precautions
Prevent further leakage or spillage if safe to do so.
Methods for Containment
Keep in suitable, closed containers for disposal.
Methods and Materials for Containment and Cleaning Up
Shovel or sweep up. Avoid dust formation. After cleaning, flush away traces with water.

7. Handling and storage

Handling
Ensure adequate ventilation. Avoid dust formation in confined areas. Fine dust dispersed in air may ignite. Refer to NFPA 61, "Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities".
Storage
Keep in a dry, cool and well-ventilated place.

8. Exposure controls/Personal protection

Exposure Limits
Where exposure limits have not been established for specific components of this material, please observe the OSHA and ACGIH established limits for particulates not otherwise classified (PNOC). OSHA PEL: [15 mg/m^3 (total dust) 8-hr TWA], [5 mg/m^3 (respirable) 8-hr TWA]. ACGIH TLV: [10 mg/m^3 (inhalable) 8-hr TWA], [3 mg/m^3 (respirable) 8-hr TWA].

Biological Limit Values
No biological limit values have been listed for the component(s) of this product.

Appropriate Engineering Controls	Ensure adequate ventilation, especially in confined areas.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment

Eye/face Protection.	Safety glasses with side-shields. If airborne dust concentrations are excessive, wear goggles.
Skin and Body Protection	Protective clothing and gloves may be worn to reduce the potential of mechanical irritation. Appropriate body protection should be selected based on activity and possible exposure.
Respiratory Protection	In case of insufficient ventilation wear suitable respiratory equipment.

9. Physical and chemical properties

Appearance	Colorless to White
Physical State	Powder / Crystalline Granules
Odor	Odorless
Odor Threshold	No information available
pH	Approx. 8.0
Flash Point	Not applicable (solid)
Autoignition Temperature	No information available
Boiling point	Not applicable
Melting/Freezing Point	Decomposes before melting
Decomposition temperature	No information available
Oxidizing Properties	No information available
Flammability Limits in Air	No information available
Explosion Limits	No information available
Water Solubility	(approx. 42%)

Solubility(ies)	Insoluble in: Alcohol.
Evaporation Rate	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Specific Gravity / Relative Density	No information available
Relative Density	No information available
Viscosity (kinematic)	Not applicable
Partition Coefficient (n-octanol/water)	No information available

10. Stability and reactivity

Stability Stable under normal conditions.
Possibility of Hazardous Reactions None under normal processing.
Conditions to Avoid Avoid dust formation.
Incompatible Materials No materials to be especially mentioned.
Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides.

11. Toxicological information

Information on toxicological effects

Acute toxicity	Based on available data, no evidence of acute toxicity.			
Chemical Name	**Weight %**	**LD50 Oral**	**LD50 Dermal**	**LC50 Inhalation**
Citrate, sodium, dihydrate	100	5400 mg/kg bw (mouse)	>2000 mg/kg bw (rat)	
Skin corrosion/irritation	Based on available data, not, or only slightly irritating.			
Serious eye damage/eye irritation	Based on available data, no evidence of serious eye damage / irritation.			
Respiratory or skin sensitisation	Based on available data, not expected to be a skin or respiratory sensitiser.			
Germ cell mutagenicity	Based on available data, the classification criteria are not met.			
Carcinogenicity	Based on available data, no evidence of carcinogenicity. There are no known carcinogenic chemicals in this product.			
Reproductive toxicity	Based on available data, no evidence of reproductive toxicity.			
STOT - single exposure	No evidence of toxicity.			
STOT - repeated exposure	No evidence of toxicity.			
Aspiration hazard	Based on available data, no known aspiration hazard.			

Potential health effects

Eyes	Contact with eyes may cause mechanical irritation.
Skin	Product dust may cause mild, mechanical irritation.
Inhalation	Dust may cause irritation of respiratory tract. See section 8 of this sheet for exposure limits pertaining to nuisance dust or "particulates not otherwise regulated".
Ingestion	Health injuries are not known or expected under normal use.

12. Ecological information

Ecotoxicity
Contains no substances known to be hazardous to the environment. Contains no substances known to be not degradable in waste water treatment plants.

Chemical Name	Fresh Water Algae	Acute Fish Toxicity	Daphnia (Water flea)	Effects on micro-organisms	Other
Citrate, sodium, dihydrate		LC50 (48h) 440 mg/l (Leuciscus idus)(nominal)	LC50 (24h) 1535 mg/l (Daphnia magna)	EC50: 8h >18000-32000 mg/L (Pseudomonas fluorescens)	

Persistence/Degradability	No information available
Mobility	No information available
PBT and vPvB assessment	No information available.
Other adverse effects	Nothing specific known.

13. Disposal considerations

Whenever possible, as rules and regulations allow, please recycle or manage materials to minimize waste.

Waste Disposal Methods Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. Can be landfilled or incinerated, when in compliance with local regulations.

14. Transport information

Domestic transport regulations (USA)
DOT Not regulated

Domestic transport regulations (Canada)
TDG Not regulated

Domestic transport regulations (Mexico)
MEX Not regulated

International transport regulations
ICAO Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

International Inventories

The components of this product are reported in the following inventories:

Chemical Name	TSCA	DSL	NDSL	ICL	EINECS	ELINCS	AICS
Citrate, sodium, dihydrate	Yes ACTIVE	Yes CAS: 68-04-2	No	Yes	Yes 200-675-3 CAS: 68-04-2	No	Yes

Chemical Name	ENCS ISHL	CHINA	PICCS	KECL	Taiwan	Turkey	NZIoC
Citrate, sodium, dihydrate	Yes (2)-1323	Yes	Yes	Yes KE-20843 CAS: 68-04-2	Yes	No	Yes

USA

Federal Regulations

Ozone Depleting Substances:
No Class I or Class II material is known to be used in the manufacture of, or contained in, this product.

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 372.

CERCLA/SARA 103-302
Sections 103-302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product is not known to contain any chemicals which are subject to the reporting requirements of the Act or regulations contained in 40 CFR 103-302.

SARA 311/312 Hazardous Categorization
Refer to the OSHA hazard classification(s) provided in section 2 of this SDS.

State Regulations

State Right-to-Know
No known components subject to "Right-To-Know" legislation.

Canada

(NPRI) Canadian National Pollutant Release Inventory
No known component is listed on NPRI.

16. Other information

Prepared By: ADM - Product Regulatory Affairs
Revision Date: 19-Oct-2020
Revision Number: 3
Reason for revision: Periodic review.

Abbreviations and acronyms
A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values
CAS - Chemical Abstract Service
Ceiling - Ceiling Limit Value: Concentrations that should never be exceeded at any given time (instantaneous)
Delisted - Substances Delisted from Report on Carcinogens
DNEL - Derived No Effect Level
DOT - U.S. Department of Transportation
GHS - Globally Harmonized System of Classification and Labelling of Chemicals
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
IARC - International Agency for Research on Cancer
IDLH - Immediately Dangerous to Life or Health
Known - Known Carcinogen
LC50 - Lethal concentration that produces fatalities in 50% of a given test population
LD50 - Median lethal dose of a given test population
NFPA - National Fire Protection Association
NIOSH - National Institute of Occupational Safety and Health
NOAEL - No Observed Adverse Effect Level
NTP - National Toxicology Program
OECD - Organisation for Economic Co-operation and Development
OSHA - Occupational Safety & Health Administration
OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits
PNEC - Predicted No-Effect Concentration
Present - Carcinogen or potential carcinogen to be identified under OSHA's Hazard Communication Standard
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
Skin notation - Potential for cutaneous absorbtion
STEL - Short Term Exposure Limit: Concentrations that should not be exceeded except for short periods of time (usually 15-minutes)
STOT - Specific Target Organ Toxicity
STV - Short Term Value (same as STEL)
TSCA - Toxic Substances Control Act, Section 8(b) Inventory (USA)
TWA - Time Weighted Average: Average concentration that should not be exceeded during a work day (usually 8-hours)
Under Consideration - Under Consideration by the National Toxicology Program

The information provided on this SDS 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 sheet