



# Safety Data Sheet

Transport Symbol(s)	WHMIS	NFPA	Personal Protective Equipment
Not controlled	Not controlled		

Original Preparation Date: 02-Mar-2009

Revision Date: 10-Jun-2015

Revision Number: 5

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

**Product Name:**

Sodium Citrate Dihydrate

**Product Code:**

042410, 042420, 042440

**Synonyms:**

Trisodium 2-hydroxypropane-1,2,3, tricarboxylate dihydrate.

CAS: 6132-04-3. CAS: 68-04-2.

**Contact Manufacturer:**

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)

**Use of the Substance / Preparation:**

Food additive / Industrial use

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

Warning. May form combustible dust concentrations in air (during processing and handling). Product dust may cause mild, mechanical irritation. Health injuries are not known or expected under normal use.

**Appearance**

Colorless to White

**Physical State**

Powder / Crystalline Granules

**Odor**

Odorless

### Classification according to 29 CFR 1910, amended to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS):

OSHA Defined Hazard(s) | Combustible Dust

### OSHA / GHS Label Elements

Signal Word: | Warning

Hazard Statement(s): | May form combustible dust concentrations in air.

Up to 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Up to 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

Up to 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature of the preparation** Substance

**Chemical Family** Esters

**Molecular Formula** Na<sub>3</sub>C<sub>6</sub>H<sub>5</sub>O<sub>7</sub> · 2H<sub>2</sub>O

### Non-hazardous Components

Chemical Name	CAS-No	Weight %	North American Hazard Indicator
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<sub>2</sub>). 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<sub>2</sub>).

**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 there is airborne dust, exposure limits pertaining to 'particulates not otherwise regulated' have been given

Chemical Name	ACGIH TLV	OSHA PEL	Mexico	NIOSH
Particulates not otherwise regulated	TWA: 10 mg/m <sup>3</sup> inhalable particles, recommended TWA: 3 mg/m <sup>3</sup> respirable particles, recommended	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction	not listed	not listed

**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

<b>Appearance</b>	Colorless to White
<b>Physical State</b>	Powder / Crystalline Granules
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	approx 8.0
<b>Flash Point</b>	Not applicable (solid)
<b>Autoignition Temperature</b>	No information available
<b>Boiling point</b>	Not applicable
<b>Melting/Freezing Point</b>	Decomposes before melting
<b>Decomposition temperature</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>Flammability Limits in Air</b>	No information available
<b>Explosion Limits</b>	No information available
<b>Water Solubility</b>	(approx. 42%)
<b>Solubility(ies)</b>	Insoluble in: Alcohol.
<b>Evaporation Rate</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable
<b>Viscosity (kinematic)</b>	Not applicable
<b>Partition Coefficient (n-octanol/water)</b>	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

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

## 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.

**Contaminated Packaging**

Empty containers should be decontaminated and taken for local recycling, recovery or waste disposal.

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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**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	AICS	ENCS ISHL	CHINA	PICCS	KECL	NZIoC
Citrate, sodium, dihydrate	Yes CAS: 68-04-2	Yes CAS: 68-04-2	No	Yes 200-675-3 CAS: 68-04-2	No	Yes	Yes (2)-1323	Yes	Yes	Yes KE-20843 CAS: 68-04-2	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**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 63)**

This product is not known to contain any HAPS.

**State Regulations****State Right-to-Know**

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

**Canada****WHMIS Product Classification**

Not a WHMIS controlled product.

**WHMIS Ingredient Disclosure List IDL**

No known component is listed on the WHMIS ingredients disclosure list.

**(NPRI) Canadian National Pollutant Release Inventory**

No known component is listed on NPRI.

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.**

**Mexico**

Mexico - Grade

Slight risk, Grade 1

**16. OTHER INFORMATION**

**Prepared By:** ADM Specialty Food, Corn  
**Original Preparation Date:** 02-Mar-2009  
**Revision Date:** 10-Jun-2015  
**Revision Number:** 5  
**Reason for revision:** This data sheet contains changes from the previous version in section(s) 2, 9, 10. This version replaces all previous versions.

**Abbreviations and acronyms**

ACGIH TLV - American Conference of Governmental Industrial Hygienists Threshold Limit Values  
AICS - Australian Inventory of Chemical Substances (Australia)  
CAS - Chemical Abstract Service  
CHINA - Chinese Inventory of Existing Chemical Substances (China)  
DOT - U.S. Department of Transportation  
DSL - Domestic Substance List (Canada)  
EC50 - Half maximal effective concentration  
EINECS - European Inventory of Existing Commercial Chemical Substances (EU)  
ELINCS - European List of Notified Chemical Substances (EU)  
ENCS - Existing and New Chemical Substances (Japan) / ISHL - Industrial Health and Safety Law (Japan)  
GHS - Globally Harmonized System of Classification and Labelling of Chemicals  
IATA - International Air Transport Association Dangerous Goods Regulations  
ICAO - International Civil Aviation Organisation  
IMDG - International Maritime Dangerous Goods Code  
IMO - International Maritime Organization  
KECL - Korean Existing and Evaluated Chemical Substances (Korea)  
LC50 - Lethal concentration that produces fatalities in 50% of a given test population  
LD50 - Median lethal dose of a given test population  
MEX - NOM-002-SCT/2003 List of Hazardous Substances and Materials Most Commonly Transported  
MEXICO - Mexico Occupational Exposure Limits  
NFPA - National Fire Protection Association  
NDSL - Non Domestic Substances List (Canada)  
NIOSH - National Institute of Occupational Safety and Health  
NZIoC - New Zealand Inventory of Chemicals (New Zealand)  
OSHA - Occupational Safety & Health Administration  
OSHA PEL - Occupational Safety and Health Administration Permissible Exposure Limits  
PICCS - Inventory of Chemicals and Chemical Substances (Philippines)  
STOT - Specific Target Organ Toxicity  
TDG - Transportation of Dangerous Goods (Transport Canada)  
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)  
WHMIS - Workplace Hazardous Materials Information System

**The information provided on this (M)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.**

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