

## SAFETY DATA SHEET

### Trisodium Citrate Dihydrate

Version	Revision Date:	SDS Number:	Date of last issue: 06/22/2017
1.2	07/21/2020	100000000010	Date of first issue: 06/16/2017
US / EN			

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#### SECTION 1. IDENTIFICATION

Product name : Trisodium Citrate Dihydrate

Substance name : Trisodium Citrate Dihydrate

Molecular formula :  $C_6H_5O_7Na_3 \cdot 2H_2O$

Chemical identity : Trisodium 2-hydroxypropane-1,2,3-tricarboxylate dihydrate

CAS-No. : 6132-04-3

Chemical nature : Solid

#### Manufacturer or supplier's details

##### Details of the supplier of the safety data sheet

Company : Lab Alley LLC  
22111 Highway 71 West, Suite 601  
Spicewood, Texas 78669  
Tel.: 512-668-9918

E-mail address Responsible/issuing person : [customerservice@laballey.com](mailto:customerservice@laballey.com)

#### Emergency telephone number

Emergency telephone number : Infotrac: 800-535-5053

#### Recommended use of the chemical and restrictions on use

Recommended use : Food/ feedstuff additives  
Cosmetic additive  
Medical aids  
Industrial use

Restrictions on use : None known.

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#### SECTION 2. HAZARDS IDENTIFICATION

##### GHS classification in accordance with 29 CFR 1910.1200

Not a hazardous substance or mixture according to the Globally Harmonised System (GHS).

##### GHS label elements

No labeling elements required.

##### Hazards Not Otherwise Classified

None known.



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Hazardous combustion products : Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide

Specific extinguishing methods : Standard procedure for chemical fires.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Wear fire resistant or flame retardant clothing.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Avoid breathing dust.  
Ensure adequate ventilation, especially in confined areas.  
Refer to protective measures listed in sections 7 and 8.

Environmental precautions : No special environmental precautions required.

Methods and materials for containment and cleaning up : Use mechanical handling equipment.  
Keep in suitable, closed containers for disposal.  
Clean contaminated surface thoroughly.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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### SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe dust.  
Avoid contact with skin and eyes.  
For personal protection see section 8.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

Materials to avoid : No materials to be especially mentioned.

Further information on storage stability : No decomposition if stored and applied as directed.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

**Engineering measures** : Provide adequate ventilation.

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### Personal protective equipment

Respiratory protection      :    In the case of dust or aerosol formation use respirator with an approved filter.  
Use NIOSH approved respiratory protection.

Hand protection

Remarks                      :    Wear suitable gloves. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection                :    Safety glasses

Skin and body protection    :    Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures            :    Handle in accordance with good industrial hygiene and safety practice.  
Avoid contact with skin, eyes and clothing.  
Wash hands before breaks and immediately after handling the product.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance                  :    Crystalline product

Colour                         :    white

Odour                         :    odourless

Odour Threshold             :    Not relevant

pH                              :    7.5 - 9.0 (77 °F / 25 °C)  
Concentration: 5 %

Melting point/range         :    > 302 °F / > 150 °C  
Decomposition

Boiling point/boiling range :    Not applicable

Flash point                   :    Not applicable

Evaporation rate            :    Not applicable

Flammability (solid, gas)   :    does not ignite

Upper explosion limit / Upper flammability limit    :    No data available

Lower explosion limit / Lower flammability limit    :    No data available

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Vapour pressure : Not applicable

Relative vapour density : Not applicable

Relative density : 1.86 (68 °F / 20 °C)

Density : Not applicable

Solubility(ies)  
Water solubility : 400 - 700 g/l (68 - 77 °F / 20 - 25 °C)

Partition coefficient: n-octanol/water : log Pow: -1.8 - -0.2  
Calculation

Auto-ignition temperature : No data available

Decomposition temperature : Decomposes before melting.

Viscosity  
Viscosity, dynamic : Not applicable

Viscosity, kinematic : Not applicable

Explosive properties : Not explosive

Oxidizing properties : No oxidising effect.

Molecular weight : 294.1 g/mol

Dust explosion class : Not applicable

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use.

Conditions to avoid : Avoid dust formation.

Incompatible materials : No data available

Hazardous decomposition products : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.  
Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Components:

##### Trisodium Citrate Dihydrate:

Acute oral toxicity : LD50 Oral (Mouse): 5.400 mg/kg body weight  
Method: OECD Test Guideline 401  
Test substance: Non neutralised product

LD50 Oral (Rat): 11.700 mg/kg body weight  
Method: OECD Test Guideline 401  
Test substance: Non neutralised product

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg body weight  
Test substance: Non neutralised product

#### Skin corrosion/irritation

##### Components:

##### Trisodium Citrate Dihydrate:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

#### Serious eye damage/eye irritation

##### Components:

##### Trisodium Citrate Dihydrate:

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405

#### Respiratory or skin sensitisation

##### Components:

##### Trisodium Citrate Dihydrate:

Test Type : Maximisation Test  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.  
Remarks : No human information is available.

#### Germ cell mutagenicity

##### Components:

##### Trisodium Citrate Dihydrate:

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Genotoxicity in vitro : Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 0.0 - 10 mg/plate  
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)  
Result: negative  
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Rat  
Application Route: Oral  
Method: OECD Test Guideline 475  
Result: negative  
Test substance: Non neutralised product

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

### Carcinogenicity

#### Components:

##### **Trisodium Citrate Dihydrate:**

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

### Reproductive toxicity

#### Components:

##### **Trisodium Citrate Dihydrate:**

Reproductive toxicity - Assessment : No toxicity to reproduction

### STOT - single exposure

#### Components:

##### **Trisodium Citrate Dihydrate:**

Remarks : No data available

### STOT - repeated exposure

#### Components:

##### **Trisodium Citrate Dihydrate:**

Remarks : No data available

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### Repeated dose toxicity

#### Components:

##### Trisodium Citrate Dihydrate:

Species : Rat  
NOAEL : 8,000 mg/kg  
LOAEL : 16,000 mg/kg  
Application Route : Oral  
Exposure time : 10 d  
Dose : 2, 4, 8, 16 g/kg bw/day

### Aspiration toxicity

#### Components:

##### Trisodium Citrate Dihydrate:

No aspiration toxicity classification

### Experience with human exposure

#### Product:

Inhalation : Target Organs: Respiratory system  
Symptoms: No information available.

Skin contact : Target Organs: Skin  
Symptoms: No information available.

Eye contact : Target Organs: Eyes  
Symptoms: No information available.

Ingestion : Target Organs: Digestive organs  
Symptoms: No information available.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### Trisodium Citrate Dihydrate:

Toxicity to fish : LC50 (Oncorhynchus tshawytscha (chinook salmon)): > 10 mg/l  
Exposure time: 24 h  
Test Type: semi-static test

LC50 (Leuciscus idus (Golden orfe)): 440 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Non neutralised product  
Method: OECD Test Guideline 203



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Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 1,535 mg/l  
Exposure time: 24 h  
Test Type: static test  
Test substance: Non neutralised product  
Method: OECD Test Guideline 202

EC50 (Dreissena polymorpha): > 50 mg/l  
Exposure time: 48 h  
Test Type: static test

Toxicity to algae : NOEC (Scenedesmus quadricauda (Green algae)): 425 mg/l  
Exposure time: 8 d  
Test Type: static test  
Test substance: Non neutralised product

Toxicity to microorganisms : TT (Pseudomonas putida): > 10,000 mg/l  
Exposure time: 16 h  
Test substance: Non neutralised product

### Persistence and degradability

#### Components:

##### **Trisodium Citrate Dihydrate:**

Biodegradability : Biodegradation: 97 %  
Testing period: 28 d  
Method: OECD Test Guideline 301B  
Test substance: Non neutralised product  
Remarks: Readily biodegradable.

Biodegradation: 100 %  
Testing period: 19 d  
Method: OECD Test Guideline 301E  
Test substance: Non neutralised product  
Remarks: Readily biodegradable.

Physico-chemical removability : Remarks: Readily biodegradable.

### Bioaccumulative potential

#### Components:

##### **Trisodium Citrate Dihydrate:**

Bioaccumulation : Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

### Mobility in soil

No data available

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### Other adverse effects

#### Components:

#### Trisodium Citrate Dihydrate:

- Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
- : This substance is not considered to be very persistent and very bioaccumulating (vPvB).
- Additional ecological information : This product has no known ecotoxicological effects.
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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

- Waste from residues : In accordance with local and national regulations. Where possible recycling is preferred to disposal or incineration.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of as unused product.
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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### DOT

Not regulated as a hazardous material

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## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 311/312 Hazards** : No SARA Hazards

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**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Water Act

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

EINECS : On the inventory, or in compliance with the inventory  
TSCA : All substances listed as active on the TSCA inventory  
TSCA\_12b : Not applicable  
DSL : All components of this product are on the Canadian DSL  
REACH : On the inventory, or in compliance with the inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of

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Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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