



Prairie Mud Service

Fluid Solutions Thru Experience and Technology

SODIUM CITRATE Safety Data Sheet

Revision Date: February 23, 2018

Review Date: June 16, 2021

SECTION 1. IDENTIFICATION

Product name : Trisodium Citrate Dihydrate
Substance name : Trisodium Citrate Dihydrate
Molecular formula : C₆H₅O₇Na₃ · 2H₂O
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 : Jungbunzlauer Canada Inc.
1555 Elm Street
Port Colborne, Ontario L3K 5V5
Canada
www.jungbunzlauer.com

Telephone : +1 905 835-5444
Telefax : +1 905 835-0061
E-mail address Responsible/issuing person : msds@jungbunzlauer.com

Emergency telephone number

Emergency telephone number : National Chemical Emergency Centre (NCEC)
+1 202 464 2554

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.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

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

GHS label elements

No labeling elements required.

Hazards Not Otherwise Classified

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

Substance / Mixture : Pure substance
Substance name : Trisodium Citrate Dihydrate
CAS-No. : 6132-04-3
Chemical nature : Solid

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Non-hazardous ingredients		
Trisodium Citrate Dihydrate	6132-04-3	100

SECTION 4. FIRST AID MEASURES

General advice : Get medical advice/ attention if you feel unwell.
Show this safety data sheet to the doctor in attendance.

If inhaled : If breathed in, move person into fresh air.

In case of skin contact : Immediately flush skin with large amounts of water.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
If easy to do, remove contact lens, if worn.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed : No information available.
None known.

Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Dry powder
Carbon dioxide (CO₂)
Foam

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Hazardous decomposition products formed under fire conditions.

Hazardous combustion products : Carbon dioxide (CO₂)
Carbon monoxide

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

- 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.
-

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid contact with skin and eyes.
Avoid breathing dust.
Ensure adequate ventilation, especially in confined areas.
- 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.
-

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.
-

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Engineering measures : Provide adequate ventilation.

Personal protective equipment

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

Hand protection

Remarks : Wear suitable gloves.
For special applications, we recommend clarifying the re-

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0
CA / EN

Revision Date: 23.02.2018

SDS Number: 100000000139

Date of last issue: -
Date of first issue: 23.02.2018

sistance 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.
-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Crystalline product
- Colour : white
- Odour : odourless
- Odour Threshold : Not relevant
- pH : 7.5 - 9.0 (25 °C)
Concentration: 5 %
- Melting point/range : > 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 : No data available
- Lower explosion limit : No data available
- Vapour pressure : Not applicable
- Relative vapour density : Not applicable
- Relative density : No data available
- Density : 1.86 g/cm³ (20 °C)
- Solubility(ies)
Water solubility : 400 - 700 g/l (20 - 25 °C)
-

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

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

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

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 (CO₂)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

Trisodium Citrate Dihydrate:

Acute oral toxicity : LD50 Oral (Mouse): 5,400 mg/kg
Method: OECD Test Guideline 401
Test substance: Non neutralised product

LD50 Oral (Rat): 11,700 mg/kg
Method: OECD Test Guideline 401
Test substance: Non neutralised product

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0
Revision Date: 23.02.2018
SDS Number: 100000000139
Date of last issue: -
Date of first issue: 23.02.2018
CA / EN

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg
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.
No human information is available.

Germ cell mutagenicity

Components:

Trisodium Citrate Dihydrate:

Genotoxicity in vitro : Test Type: Ames test
Species: Salmonella typhimurium
Concentration: 0.0 - 10 mg/plate
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative
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 - : In vitro tests did not show mutagenic effects

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

Assessment

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:

No data available

STOT - repeated exposure

Components:

Trisodium Citrate Dihydrate:

No data available

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

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

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.

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

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

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version 1.0 Revision Date: 23.02.2018 SDS Number: 100000000139 Date of last issue: -
CA / EN Date of first issue: 23.02.2018

Persistence and degradability

Components:

Trisodium Citrate Dihydrate:

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

Biodegradation: 100 %
Information given is based on data obtained from similar substances.

Physico-chemical removability : Readily biodegradable.

Bioaccumulative potential

Product:

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

Components:

Trisodium Citrate Dihydrate:

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

Mobility in soil

No data available

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.

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.

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version Revision Date: SDS Number: Date of last issue: -
1.0 23.02.2018 100000000139 Date of first issue: 23.02.2018
CA / EN

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Dispose of as unused product.

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

TDG

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

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

EINECS : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

TSCA_12b : Not applicable

REACH : On the inventory, or in compliance with the inventory

Canadian lists

DSL: All components of this product are on the Canadian DSL
Canadian National Pollutant Release Inventory (NPRI): No component is listed on NPRI.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; IECS - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dan-

SAFETY DATA SHEET

Trisodium Citrate Dihydrate

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	23.02.2018	100000000139	Date of first issue: 23.02.2018

CA / EN

gerous 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 Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 23.02.2018

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.