



Prairie Mud Service

Fluid Solutions Thru Experience and Technology

SODIUM CITRATE Safety Data Sheet

Revision Date: February 23, 2018

Review Date: June 16, 2024

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 : Prairie Mud Service
738 6th Street
Esteron, SK
S4A 1A4

Emergency telephone number

Emergency telephone number : 1-888-CAN-UTEC (226-8832) or (613) 996-6666 or * 666

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.
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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.

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.
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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 (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: -
CA / EN Date of first issue: 23.02.2018

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

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