Trisodium citrate dihydrate

SAFETY DATA SHEET

Version: 1
Date: 12/05/2015

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Trisodium citrate dihydrate/Sodium Citrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>Trisodium citrate dihydrate/Sodium Citrate</td>
</tr>
<tr>
<td>CAS No.</td>
<td>6132-04-3</td>
</tr>
<tr>
<td>EINECS No.</td>
<td>200-675-3</td>
</tr>
</tbody>
</table>

1.2 Relevant identified uses of the substance or mixture and uses advised against

<table>
<thead>
<tr>
<th>Identified use(s)</th>
<th>Personal care products, detergent/cleaning, household products, paper making.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses advised against</td>
<td>No uses advised against</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the Safety Data Sheet

Company Identification
Skyhawk Chemicals, Inc.
701 N. Post Oak Road Ste 540
Houston, TX 77024
713-957-2200 800-535-2847

Telephone
Fax No: 713-957-0345
E mail CSR
order@skyhawkchemicals.com

1.4 Emergency telephone number 800-424-9300 Acct# CCN721839
Opening hours 24 hours

SECTION 2: HAZARDS IDENTIFICATION

2.1 Substances

<table>
<thead>
<tr>
<th>EC Classification No. 1272/2008:</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC Classification No. 67/548/EEC:</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

2.2 Other hazards

Not known

2.3 Additional Information

Not known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

<table>
<thead>
<tr>
<th>Composition</th>
<th>% W/W</th>
<th>EC No.</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trisodium citrate dihydrate</td>
<td>99.0 - 100.5</td>
<td>200-675-3</td>
<td>6132-04-3</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
Inhalation: Move to fresh air. Rinse nose and mouth with water. If irritation persists, seek medical assistance.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, seek medical assistance.

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and get medical attention if symptoms persist.

Ingestion: Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person, seek medical assistance.

4.2 Most important symptoms and effects, both acute and delayed: No adverse effects expected but dust may cause mechanical irritation.

4.3 Indication of immediate medical attention and special treatment needed: See 4.1 Eye contact.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
- Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, dry powder or water fog.
- Unsuitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Special hazards arising from the substance or mixture: Oxides of carbon.

5.3 Advice for fire-fighters: In the event of fire, wear self-contained breathing apparatus and wear suitable protective clothing. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.4 Additional information: Explosion hazard from the generation of dust.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.

6.2 Environmental precautions: Do not flush into surface water or sewage system.

6.3 Methods and material for containment and cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4 Reference to other sections: Section 8

6.5 Additional Information: Not known

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Avoid contact with skin and eyes. Use in well-ventilated areas. Do not breathe dust.

7.2 Conditions for safe storage, including any incompatibilities:
- Storage: Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.
- Incompatible materials: Not known

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits: No limits assigned
8.1.2 Biological limit value

No values assigned

8.2 PNECs and DNELs

DNELs – Health
No true DNEL for systemic toxicity can be derived.

PNEC-Environment
Not calculated

8.3 Exposure controls
Minimise the risk of dust inhalation.

8.3.1 Appropriate engineering controls
Provide adequate ventilation

8.3.2 Personal protection equipment

Eye/face protection
Safety glasses with side-shields

Skin protection (Hand protection/ Other)
Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday. Protective gloves must satisfy the specifications EU Directive 89/686/EEC and EN 374

Respiratory protection
Provide adequate ventilation. Wear a respirator where dust level exceeds 10 mg/m3

8.3.3 Environmental Exposure Controls
Do not discharge to drain or water courses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance
Solid, crystalline

Colour
White

Odour
Odourless

Melting Point
Substance decomposes above 150°C

Boiling point/boiling range:
decomposes without boiling

Flash Point
Not relevant

pH
7.6-9.0

Flammability (solid, gas)
Non flammable

Density (g/ml)
1.86 at 20°C, trisodium citrate pentahydrate

Solubility (Water)
400- 700 g/l at 20-25°C

Partition Coefficient ( Log Kow):
-n-Octanol/water) Not known
Decomposition Temperature Not relevant
Surface tension Not surface active
Vapour pressure Vapour pressure: negligible (read-across from citric acid)
Explosive properties Not explosive
Oxidising properties Not oxidising
9.2 Other information

Granulometry Particle size of fine grade trisodium citrate dihydrate below 100 μm =1.7%
the D50 of the fraction below 100 μm was at 53.24 μm.

SECTION 10: STABILITY AND REACTIVITY
10.1 Reactivity
10.2 Chemical stability Stable under normal conditions
10.3 Conditions to avoid Exposure to heat and moisture.
10.4 Incompatible materials Sodium nitrite, potassium nitrite
10.5 Hazardous Decomposition Product(s) Oxides of carbon.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
Acute toxicity
Ingestion LD50 5400 mg/kg bw (based on citric acid)
Inhalation No data
Skin Contact. LD50 (dermal): >2000 mg/kg bw
Skin corrosion/irritation Can be an irritant
Eye Contact Dust can be an irritant
Respiratory or skin sensitization –skin Not a sensitizer
Mutagenicity Not a mutagen
Carcinogenicity Not a carcinogen
Reproductive toxicity Not a reproductive toxin
11.2 Other information Not known

SECTION 12: ECOLOGICAL INFORMATION
12.1 Toxicity Not regarded as dangerous for the environment.
12.2 Persistence and degradability Biodegradable
12.3 Bioaccumulative potential Not expected to bioaccumulate
12.4 Mobility in soil Not applicable
12.5 Results of PBT and vPvB assessment Not a PBT or a vPvB
12.6 Other adverse effects Not known

SECTION 13: DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.
13.2 Additional Information Not known
SECTION 14: TRANSPORT INFORMATION

14.1 Land transport (ADR/RID) Not subject to transport regulations.
14.2 Sea transport (IMDG) Not subject to transport regulations.
14.3 Air transport (ICAO/IATA) Not subject to transport regulations.
14.4 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not subject to transport regulations.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture substance or mixture

15.1.1 EU regulations User to follow EU directives and regulations
Authorisations and/or restrictions on use Not applicable

15.1.2 National regulations User to follow national regulations

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Version 1

LEGEND

DNEL Derived No Effect Level
PNEC Predicted No Effect Concentration

References:

Chemical Safety Report for citric acid and citrates

Risk Phrases and Safety Phrases
Not classified

Hazard statement(s) and Precautionary statement(s)
Not classified

Training advice: Ensure staff and workers receive adequate training with regular updates in the handling of chemicals

Additional Information

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