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

1.1 Product identifier
Chemical product name: Sodium dihydrogen citrate anhydrous; Citric acid, mono sodium salt
Trade Name: Mono sodium citrate anhydrous
Chemical name (e.g. IUPAC name): Monosodium 3-hydroxy-3-carboxy-1,5-pentanedioic acid
Chemical formula: C_6H_8O_7•Na
Product type: Solid
CAS number: 18996-35-5
EC number: 242-734-6
Product code (supplier): 09048******

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Food additive. Manufacture of pharmaceutical products.

1.3 Details of the supplier of the safety data sheet
Company/undertaking identification
Gadot Biochemical Industries LTD.
117-119 Hahistadrut Rd, POB 10636
Haifa Bay 26118, Israel

E-mail address of person responsible for this SDS: N/A

1.4 Emergency telephone number
Emergency telephone number (including hours of operation): +972 4 8461 555

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP/GHS)

<table>
<thead>
<tr>
<th>Product name</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono sodium citrate anhydrous</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Classification according to Directive 67/548/EEC (DSD) or 1999/45/EC

<table>
<thead>
<tr>
<th>Product name</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono sodium citrate anhydrous</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

2.2 Label elements
Labeling in accordance with Regulation 1272/2008 (CLP)
Hazard pictograms: Not required

Signal word: Not required
Hazard statements: Not classified
Precautionary Statements: Not required

2.3 Other hazard
N/A

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

<table>
<thead>
<tr>
<th>Product/Ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>EU Classification</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono sodium citrate</td>
<td>CAS number: 18996-35-5</td>
<td>80-100</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>anhydrous</td>
<td>EC number: 242-734-6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8. See section 16 for the full text of the H-statements and R-phrases declared above.

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

Eyes contact: In case of contact with eyes rinse opened eyes under running water for at least 15 minutes and seek medical advice.

Skin contact: In case of contact with skin wash off immediately with mild soap and plenty of water for at least 15 minutes, and seek medical advice.

Inhalation: Remove the casualty into fresh air and keep him calm. If breathing is difficult, give oxygen. Apply artificial respiration if necessary and get medical attention immediately.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If victim is conscious give 2-3 glasses of water to drink.

4.2 Most important symptoms and effects, both acute and delayed
May cause irritation, vomiting, coughing, sneezing and labored breathing. Cause mild gastrointestinal symptoms as diarrhea, indigestion and nausea.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: No specific antidote, medical staff contacts Poisons Information Center. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Special treatments: No specific treatment
Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable: Dry chemical powder, carbon dioxide, water spray or appropriate foam.
Not suitable: N/A

5.2 Special hazards arising from the substance or mixture
This material is capable of creating a dust explosion.
Under fire emits irritating and toxic fumes.

5.3 Advice for firefighters
Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.
Move containers from fire area if possible to do so without risk.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective clothing, respirator, chemical safety goggles, rubber boots and rubber gloves. Avoid contact with skin eyes and inhalation of dust. Remove all sources of ignition. Ventilate area of spill.

6.2 Environmental precautions
Do not let this chemical enter the environment. Keep away from drains, surface and ground water.

6.3 Methods and materials for containment and cleaning up
Avoid excessive generation of dust. Sweep up, place in a bag and hold for reclamation or disposal, using a method that does not generate dust. Ventilate and wash spill after material pick up is complete.

6.4 Reference to other sections
See Sections 1 for emergency contact information

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Handling: Minimize dust generation and accumulation. Do not breathe dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

7.2 Conditions for safe storage, including any incompatibilities
Storage: Keep containers tightly closed, in dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Do not store together with oxidizing agents and reducing agents. Avoid humidity and high temperatures. Note that material is slightly hygroscopic.
Suitable packing measures: polyethylene-lined bags, drums, big bags, etc.
Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters
Occupational exposure limit values: N/A

8.2 Exposure controls

Engineering Measures
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Person Protective measures
Respiratory protection: Approved respirator. Be sure to use an approved/certified or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hand protection: Wear rubber gloves to prevent skin exposure.

Eye protection: Wear chemical safety goggles.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Environmental exposure controls: Not available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Appearance: White, crystalline powder
Odour: No unusual odour
Odour threshold: N/A
pH: (1% solution) 3.5-4.0
Melting point/Freezing point: 208°C
Initial boiling point/boiling range: Decomposes before boiling
Flash point: Not relevant
Evaporation rate: N/A
Flammability: Non-flammable
Upper/lower flammability or explosive limits: N/A
Vapor pressure: Practically zero (air=1)
Vapor density (air=1): Not applicable
Relative Density: 1.67-1.86 at 20°C (interpolation from citric acid and trisodium citrate)
Solubility(ies): Water solubility: 135 g/l at 25°C
Partition coefficient Octanol/Water: N/A
Auto-ignition temperature: Not established
Decomposition temperature: N/A
Viscosity: N/A
Explosive properties: Not explosive
Oxidizing properties: Not oxidizing
9.2 Other information:
Molecular weight (g/mol): 214.11

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients

10.2 Chemical stability
The product is stable under normal handling and storage conditions described in section 7.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Humidity and high temperatures.

10.5 Incompatible materials
Oxidizing agents and reducing agents.

10.6 Hazardous Decomposition products:
N/A

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono sodium citrate anhydrous</td>
<td>LD50, Intraperitoneal</td>
<td>Rat</td>
<td>1348 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50, Intraperitoneal</td>
<td>Mouse</td>
<td>1635 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: May cause irritation.

Serious eye damage/irritation: Cause irritation.

Respiratory or skin sensitization: Not sensitising to the skin in guinea pig.

Germ cell mutagenicity: In vitro negative with and without activation in bacterial test. Positive in vitro in cytogenicity study with mammalian cells.

Carcinogenicity: Has not been thoroughly investigated.

Reproductive toxicity: N/A

Specific target organ toxicity (single exposure): N/A

Specific target organ toxicity (repeated exposure): N/A

Aspiration hazard: N/A
**SAFETY DATA SHEET**

| Mono sodium citrate Anhydrous | MSDS No. | Page 6 of 7 |

**Other effects:**
May be harmful if inhaled or if swallowed. May cause nausea, vomiting, coughing, sneezing and labored breathing.

### Section 12: ECOLOGICAL INFORMATION

12.1 **Toxicity:** N/A

12.2 **Persistence and Degradability:** N/A

12.3 **Bioaccumulative potential:** N/A

12.4 **Mobility in soil**
Soil/water partition coefficient (Koc) : N/A

12.5 **Results of PBT and vPvB assessment**
Not available

12.6 **Other adverse effects:** N/A

### Section 13: DISPOSAL CONSIDERATIONS

**Methods of disposal:** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Hazardous waste:** N/A

### Section 14: TRANSPORT INFORMATION

**International transport regulations**

14.1 **Un number:**
ADR/RID: -  
IMDG: -  
IATA: -

14.2 **Proper shipping name:**
ADR/RID: Not regulated

IMDG: Not regulated

IATA: Not regulated

14.3 **Transport hazard class(es):**
ADR/RID: -  
IMDG: -  
IATA: -

14.4 **Packing group**
ADR/RID: -  
IMDG: -  
IATA: -
14.5 Environmental hazard
ADR/RID: -  IMGD: -  IATA: -

14.6 Special precautions for user
Not available

14.7 Transport to bulk according to Annex II of MARPOL 79/78 and the IBC Code
Not available

Section 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Directives 67/548/EEC and 1999/45/EC (including amendments)

15.2 Chemical safety assessment
In accordance with REACH article 14, a Chemical Safety Assessment (from 15/07/2010) has been carried out for this substance.

Section 16: OTHER INFORMATION

Training advice: Before using/handling the product one must read carefully present MSDS.

Recommended restriction: N/A

Key Legend Information:
ACGIH- American Conference of Governmental Industrial Hygienists
OSHA- Occupational Safety and Health Administration
NTP- National Toxicology program
IARC- International Agency for Research on Cancer
ND- Not Determined
N/A- Not available
R-phrases- Risk phrases
S-phrases- Safety phrases

Date of issue: 03/04/2012

Version no. 1

To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.