SAFETY DATA SHEET

Sodium Tripolyphosphate

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

REACH Product name: Sodium Tripolyphosphate Anhydrous
Trade names: Sodium Tripolyphosphate; STPP; STPP-GL; STPP-GH; STPP-PL; STPP-PH; STPP-HUPL; STPP-HUPM; STPP-HUPH; Hi M-211; Hi M-212; Hi M-2165; Hi M-217; Hi M-218.
Synonyms: Pentasodium Triphosphate, Sodium Triphosphate, Triphosphoric acid, Pentasodium salt, STPP.
Chemical formula: Na₅P₃O₁₀
Product type: Solid.
Cas number: 7758-29-4
Use of the substance/ preparation: Food processing- sequestrant, emulsifier, buffer, stabilizer, dispersant, texturizer, water holding agent.
Agriculture- with bentoinite in irrigation practice.
Cosmetics – soaps, cleaners.
Cosmetics – soaps, cleaners.
Industries – soap and synthetic detergents, ceramics and clay products, pulp and paper, water treatment, drilling mud.

Company/undertaking identification
Supplier/Manufacturer: Haifa Chemicals Ltd.
P.O.B 10809, Haifa Bay 26120, Israel
Tel: +972-4-8469961
Fax: +972-4-8469955
e-mail address of person: Email: industrial@haifachem.com
responsible for this SDS
Emergency telephone number: 972-4-8469603/4
(with hours of operation)

Section 2. HAZARDS IDENTIFICATION

Classification: The substance is not classified as dangerous according to Directive 67/548/EEC and its amendments.
Most important hazards: CAUTION! Dust in high concentration may cause eye, skin and respiratory tract irritation

See section 11 for more detailed information on health effects and symptoms.
Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation: Mono-constituent substance

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>CAS number</th>
<th>%</th>
<th>EC number</th>
<th>Classification</th>
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<tr>
<td>Sodium Tripolyphosphate</td>
<td>7758-29-4</td>
<td>100%</td>
<td>231-838-7</td>
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</tr>
<tr>
<td>Anhydrous</td>
<td></td>
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</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.

Section 4. FIRST AID MEASURES

Symptoms: May cause irritation to the respiratory tract. Symptoms may include coughing and sneezing. Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea. Causes irritation to skin and eyes. Symptoms include dryness or cracking.

Eyes contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation develops or persists or if visual changes occur.

Skin contact: In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Cold water may be used. Get medical attention if irritation develops or persists. Remove contaminated clothing and shoes. Clean contaminated clothing and shoes before re-use.

Inhalation: If respiratory irritation or distress occurs, remove victim to fresh air. Get medical attention if respiratory irritation or distress continues.

Ingestion: If victim conscious and alert, give 2-3 glasses of water to drink DO NOT INDUCE VOMITING. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
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. Sodium phosphates have a hypothetical risk of hypernatremia and hypocalcemia, sodium, phosphate and calcium levels should be monitored.

See section 11 for more detailed information on health effects and symptoms.

Section 5: Fire-Fighting Measures

Extinguishing media
Suitable: Use water spray, dry chemical, carbon dioxide or appropriate foam.

Not suitable: Not available

Special exposure hazards: Not available

Hazardous thermal decomposition products: Oxides of phosphorous, oxides of sodium. Not combustible Thermal decomposition products are dependent on temperature.

Special protective equipment for fire-fighters: Fire Fighting should wear positive self-contained breathing apparatus (SCBA) and full turnout gear.

Remark: Not explosive.

Section 6: Accidental Release Measures

Personal precautions: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions: Do not let this chemical enter the environment.

Methods for cleaning up
Small spill: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Prevent the product from spreading into the environment.
Large spill: As for small spill.

Personal Protection in Case of Large Spill: Safety glasses. Full suit. Dust respirator. Boots. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.

Section 7: Handling and Storage

Handling: Minimize dust generation and accumulation. Do not breath dust. Avoid contact with skin and eyes. Wash thoroughly after handling. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. Do not permit eating/drinking/smoking near the material.

Storage: Stored in an area that is cool, dry, well ventilated, isolated from strong acids. Keep containers tightly closed, in a dry, cool and well ventilated place. Protect from moisture. Do not store together with strong oxidizing agents and strong acids. Keep away from heat.

Specific use(s): Not available

Section 8: Exposure Control / Personal Protection

Exposure limit values:

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Occupational exposure limits</th>
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<tbody>
<tr>
<td>Sodium Tripolyphosphate Anhydrous</td>
<td>ACGIH-TLV 10 mg/m3 (TWA)*</td>
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<tr>
<td></td>
<td>ACGIH-TLV 3 mg/m3 (TWA)**</td>
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<tr>
<td></td>
<td>OSHA-PEL 15 mg/m3 (TWA)**</td>
</tr>
<tr>
<td></td>
<td>OSHA-PEL 5 mg/m3 TWA)**</td>
</tr>
<tr>
<td></td>
<td>*nuisance dust - inhalable particulate</td>
</tr>
<tr>
<td></td>
<td>**nuisance dust - respirable particulate</td>
</tr>
<tr>
<td></td>
<td>*** total dust</td>
</tr>
</tbody>
</table>

Exposure controls

Occupational exposure controls: Use process enclosures, local exhaust ventilation, or others 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.

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

Hand protection: Wear appropriate protective gloves to prevent skin exposure.
**Eye protection:** Wear appropriate protective eye glasses or chemical safety goggles.

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

**Hygiene measures:** Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Follow good industrial hygiene practice.

**Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Exposure Guidelines:** Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements.

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**Section 9: Physical and Chemical Properties**

**General information:**
Physical state: Solid (powder or granular)
Colour: White
Odour: Odorless
Odour threshold: Odorless
Molecular weight: 367.86 g/mol
pH: 9.5-10.2 (Conc.(% w/w): 1) [Basic]
Boiling point/boiling range: Not applicable
Flash point: Not applicable
Flammability: Not flammable
Explosive properties: Not explosive
Oxidizing properties: Not oxidizer
Vapor pressure: < 0.001 kPa (<0.01 mm Hg) at 20°C (68°F) - Not Volatile
Relative Density: 2.6 g/cm³
Water solubility: 15 g/100g of water at 25°C (77°F)
Octanol/Water partition coefficient: <1 the product is more soluble in water
Viscosity: Not Viscous
Vapor density: Not Volatile
Evaporation rate (butyl acetate=1): Not Volatile
VOC: Not an organic compound
Apparent (Bulk) Density: 0.45-0.65 g/cm$^3$ - granular
0.70-0.90 g/cm$^3$ - powder
Decomposition range: > 630°C (1166°F)
Melting point/melting range: > 630°C (1166°F)

**Section 10: Stability and Reactivity**

**Stability:** The product is stable under normal handling and storage conditions described in Section 7.

**Conditions to avoid:** Extreme humidity, extreme heat.

**Materials to avoid:** Strong oxidizing agents, strong acids and moisture.

**Hazardous Decomposition products:** Under fire- oxides of phosphorous, oxides of sodium.

**Hazard polymerization:** Will not occur.

**Section 11: Toxicological Information**

**Potential acute health effects**

**Inhalation:** Dusts may cause coughing and sneezing.

**Ingestion:** Ingestion of large quantities may cause gastrointestinal irritation, vomiting and diarrhea.

**Skin contact:** Prolonged contact with the dry material may cause dryness or cracking of the skin.

**Eyes contact:** Dusts have a dehydrating effect and may cause irritation at high concentration.

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Species</th>
<th>Dose</th>
<th>Result</th>
<th>Exposure</th>
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<tr>
<td>Sodium Tripolyphosphate</td>
<td>Rat</td>
<td>3120 mg/kg</td>
<td>LD50 Oral</td>
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</table>
Potential Chronic Health Effects
Reproductive toxicity:
Chronic effects:

Carcinogenicity: This product does not contain any substances that are considered by IARC, NTP, OSHA, EU or ACGIH to be “probable” or “suspected” human carcinogens.

Mutagenicity: Not applicable.

Teratogenicity: Not applicable.

Developmental effects:

Fertility effects: Not applicable

Over exposure signs/ symptoms
Inhalation: Inhalation of product may aggravate existing chronic respiratory disease.

Ingestion: No specific data

Skin: No specific data

Eyes: No specific data

Target organs: No specific data

Special Remarks on Toxicity to animals: Very low toxicity for humans or animals.

Section 12: Ecological Information

Ecotoxicity
Aquatic ecotoxicity

<table>
<thead>
<tr>
<th>Product/ ingredient name</th>
<th>Test/ Type</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Mobility: Soluble in water.

Persistence: No applicable, since inorganic substance.
Degradability: No applicable, since inorganic substance.

Degradability in sewage works: Slow hydrolysis to orthophosphate form.

Bioaccumulative potential: N/A

Result of PBT assessment: N/A

Other adverse effects:
Substances which have an unfavorable influence on the oxygen balance and can be measured using parameters such as BOD, COD, etc.

Substances, which contribute: Phosphates, 57% as P2O5 to eutrophication

Remarks:

Section 13: Disposal Considerations

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

Hazardous waste: NO

Section 14: Transport Information

International transport regulations

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN number</th>
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<th>Packing group</th>
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<th>Additional information</th>
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<td>ADNR Class</td>
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<tr>
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</tbody>
</table>
SAFETY DATA SHEET

Sodium Tripolyphosphate

National Fire Protection Association Hazard Ratings- NFPA (R):
1 Health Hazard Rating - Slight
0 Flammability Rating - Minimal
0 Instability Rating - Minimal

Section 15: Regulatory Information

EC regulations
Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Labelling in accordance with EC directivec: No symbol required.

Risk phrases: This product is not classified according to EU legislation.

Safety phrases: This product is not classified according to EU legislation

1 Health Hazard Rating - Slight
0 Flammability Rating - Minimal
0 Instability Rating - Minimal

Section 16: Other Information

Full text of R-phrases referred to in sections 2 and 3: N/A

Full text of classifications referred to in sections 2 and 3: N/A

Training advice: N/A

Recommended restriction: N/A

Key Legend Information:
ACGIH- American Conference of Govermental 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

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