1. Identification (company name & product)

Product name: Triple Superphosphate
Synonyms: GTSP, Concentrated Superphosphate, Calcium bis(dihydrogenorthophosphate), 0-46-0
MSDS number: KFB_TSP_GHS_EN
Manufacturer/Supplier Address: Koch Fertilizantes do Brasil
Rua Joaquim Floriano 1.120
1 andar
Cj. 12 Sao Paolo, SP BRASIL
E-mail: kochmsds@kochind.com
Telephone: +011 55 41 92263400
+1 316 828 7672
Emergency telephone number: For Chemical Emergency
Call CHEMTREC day or night
USA/Canada - 1.800.424.9300
Outside USA/Canada 1.703.527.3887

Recommended use and Limitations on use
Recommended use: Fertilizer.
SDS number: Not available.

2. Hazards identification

GHS classification
Physical hazards: Not classified.
Health hazards:
- Skin corrosion/irritation: Category 3
- Serious eye damage/eye irritation: Category 1

Environmental hazards: Not classified.

Label elements

Symbols
Signal word: Danger
Hazard statement: Causes serious eye damage. Causes mild skin irritation.

Precautionary statement
Prevention: Wear eye/face protection.
Response: First wash with water for several minutes. If possible, remove contact lenses. Seek medical care.
Immediately call a POISON CENTER or doctor/physician. If there is irritation, seek medical care.
Storage: Store away from incompatible materials.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Substance or mixture: Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS Number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superphosphates, concd.</td>
<td>65996-95-4</td>
<td>58 - 95</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>7778-18-9</td>
<td>1 - 20</td>
</tr>
<tr>
<td>Calcium hydrogenorthophosphate</td>
<td>7757-93-9</td>
<td>0.1 - 15</td>
</tr>
</tbody>
</table>
Material name: Triple Superphosphate

4. First aid measures

First aid measures for different exposure routes

**Inhalation**
Move to fresh air. Get medical attention if any discomfort continues. In case of persistent throat irritation or coughing seek medical attention and take along these instructions.

**Skin contact**
Flush skin thoroughly with water. Get medical attention if irritation develops or persists.

**Eye contact**
Dust in the eyes: Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Hold eyelids apart. Get medical attention immediately. Continue to rinse.

**Ingestion**
Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Never give anything by mouth to an unconscious person. Only induce vomiting at the instruction of medical personnel. Get medical attention if any discomfort occurs.

Most important symptoms and effects
Symptoms include itching, burning, redness, and tearing of eyes.

5. Fire-fighting measures

**Extinguishing media**
Water. Dry chemical, foam, carbon dioxide.

**Extinguishing media to avoid**
None known.

**Specific hazards during fire fighting**
Dust may form explosive mixture with air.

**Special fire fighting procedures**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Protection of fire-fighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Specific hazards arising from combustion**
This product is not flammable.

Specific methods
Use water spray to cool unopened containers. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental release measures

**Personal precautions**
Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Emergency procedures**
Collect dust using a vacuum cleaner. If not possible, moisten dust with water before it is collected with shovel, broom or the like. The vacuum cleaner should be explosion-proofed. Avoid dust formation. After removal flush contaminated area thoroughly with water. Never return spills to original containers for re-use.

**Spill cleanup methods**
Prevent entry into waterways, sewers, basements or confined areas. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. If not possible, moisten dust with water before it is collected with shovel, broom or the like. Collect dust using a vacuum cleaner. The vacuum cleaner should be explosion-proofed. After removal flush contaminated area thoroughly with water. Never return spills to original containers for re-use. Avoid dust formation.

7. Handling and storage

**Handling**

**Technical measures**
Take precautionary measures against static discharges when there is a risk of dust explosion. Use explosion-proof ventilation equipment. To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system.

**Local and general ventilation**
Use only with adequate ventilation.
Safe handling advice
Avoid inhalation of dust and contact with skin and eyes. Use work methods which minimize dust production. Keep the workplace clean. Handle and open container with care. Dust clouds may be explosive under certain conditions. Keep away from sources of ignition - No smoking.

Storage
Suitable storage conditions
Keep in a well-ventilated place. Keep container tightly closed. Keep this material away from food, drink and animal feed.

8. Exposure controls/personal protection

Exposure limits
US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>orthophosphoric acid (CAS 7664-38-2)</td>
<td>STEL</td>
<td>3 mg/m3</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>1 mg/m3</td>
</tr>
</tbody>
</table>

Engineering measures
Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment. An eye wash bottle must be available at the work site.

Personal protective equipment

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: High-efficiency particulate respirator.

Hand protection
Wear protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye/Face protection
Wear dust-resistant safety goggles where there is danger of eye contact.

Skin and body protection
Do not get this material in contact with skin. Risk of contact: Wear appropriate chemical resistant clothing. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Thermal hazards
Not available.

Hygiene measures
When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Remove and isolate contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. Launder contaminated clothing before reuse.

9. Physical and chemical properties

Appearance

Physical state
Solid.
Form
Powder or granules.
Color
Tan to black.
Odor
Slight.
Odor threshold
Not available.
pH
2.5 - 2.8 (10% solution).
Melting point/freezing point
287.6 °F (142 °C)
Boiling point, initial boiling point, and boiling range
Decomposes.
Flash point
Not applicable
Auto-ignition temperature
Not available.

Upper/lower flammability or explosive limits

Flammability (solid, gas)
Not available.
Flammability limit - lower (%)
Not available.
Flammability limit - upper (%)
Not available.
Explosive limit - lower (%)
Not available.
Explosive limit - upper (%)
Not available.
Vapor pressure
Not available.
Vapor density
Not available.
Evaporation rate
Not available.
Relative density: Not available.
Density: 1.1 g/cm³
Solubility: 0.2 kg/l
Partition coefficient (n-octanol/water): Not available.
Decomposition temperature: Not available.
Bulk density: 1.1 - 1.15 g/cm³
Viscosity: Not available.
Molecular weight: 252.07 (Pure material).

10. Stability and reactivity
Stability: Stable at normal conditions.
Conditions to avoid: Static discharge and dust generation.
Incompatible materials: Water. Strong oxidizing agents.
Possibility of hazardous reactions: Hazardous polymerization does not occur.

11. Toxicological information
Acute toxicity: May cause discomfort if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>orthophosphoric acid (CAS 7664-38-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Dermal</td>
<td>Rabbit</td>
<td>2740 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral LD50</td>
<td>Rat</td>
<td>1530 mg/kg</td>
</tr>
</tbody>
</table>

Routes of exposure: Inhalation. Eye contact.
Symptoms: Symptoms include itching, burning, redness, and tearing of eyes.
Skin corrosion/irritation: May cause irritation through mechanical abrasion.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory sensitizer: Not classified.
Skin sensitizer: Not classified.
Germ cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Toxic to reproduction: Not classified.
Specific target organ toxicity - single exposure: Not classified.
Specific target organ toxicity - repeated exposure: Not classified.
Aspiration hazard: Not classified.
Chronic effects: Prolonged inhalation may be harmful.
Other information: Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

12. Ecological information
Ecotoxicity: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability: None known.
Bioaccumulation: Not available.
Mobility in soil: The product is water soluble and may spread in water systems.
Other adverse effects: May release phosphates which will result in algae growth, increased turbidity and depleted oxygen, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effec
13. Disposal considerations

Residual waste
Dispose in accordance with all applicable regulations.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Local disposal regulations
Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

14. Transport information

International regulations
IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory information

Applicable regulations
This chemical product safety data sheet was prepared in accordance with the Brazilian Standard (ABNT NBR 14725-4: Safety data sheet for chemicals (SDS)).

Montreal Protocol
Not applicable.

Rotterdam Convention
Not applicable.

Stockholm Convention
Not applicable.

16. Other information

List of abbreviations
Not available.

References
Not available.

Disclaimer
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