1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Dry Precipitated Silica

Recommended use:
- Anticaking agents
- Free flow agents
- Carrier
- Thickening agent

Manufactured by:
National Titanium Dioxide Company, Ltd.
P.O. Box 13586
Jeddah 21414, Kingdom of Saudi Arabia
Telephone: +966(0)2-652-9966
Fax: +966(0)2-652-9933

Other Information:
E-mail contact: cldemille@cristal.com

Emergency Telephone Number:
SGS +966-3-362-21-93 (Al-Jubail)

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: White
Physical State: Powder
Odor: Odorless

Potential Health Effects

Acute Toxicity

- Skin: May cause drying of the skin.
- Inhalation: May cause irritation of respiratory tract.
- Ingestion: No hazard expected in normal use.
- Eyes: May cause irritation.

Chronic Toxicity

Chronic effects: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td>112926-00-8</td>
<td>100</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact
Wash off with soap and plenty of water.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water and afterwards drink plenty of water. Get medical attention if symptoms occur.

5. FIRE-FIGHTING MEASURES

Flammable Properties
Not flammable.

Flash Point
Not applicable.

Instructions to Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Hazardous Combustion Products
None.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment.

Methods for Containment
Contain the discharged material. Do not allow product to enter public drainage systems or open water courses. Check with local and state environmental agencies for guidance.

Methods for Cleaning Up
Clean up promptly by sweeping or vacuum.

7. HANDLING AND STORAGE

Handling
Handle in accordance with good industrial hygiene and safety practice.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td></td>
<td>(vacated) TWA: 6 mg/m³</td>
</tr>
<tr>
<td>112926-00-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Engineering measures
Shower.
Eyewash stations.
Ventilation systems.

Personal Protective Equipment

Eye/Face Protection
Safety glasses with side-shields or goggles.
### Skin and Body Protection
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### Respiratory Protection
If exposure limits are exceeded or irritation is experienced, MSHA/NIOSH approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

### Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Physical State</td>
<td>Powder</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosion Limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Hardly soluble</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>~ 2 g/cm³ (20° C)</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>None</td>
</tr>
</tbody>
</table>

### Stability
Stable under recommended storage conditions.

### Incompatible Products
None.

### Conditions to avoid
This product is highly absorbant, synthetic silica with an extremely high surface area. If using this silica as a carrier for easy oxidizable liquids, a possibly occurring oxidizing process could be accelerated due to the high surface area of the silica. Therefore a self-ignition of the coated substance could occur.

### Hazardous decomposition products
None.

### Hazardous Reactions
None.

### Hazardous Polymerization
Hazardous polymerization does not occur.

## 10. STABILITY AND REACTIVITY

### Stability
Stable under recommended storage conditions.

### Incompatible Products
None.

### Conditions to avoid
This product is highly absorbant, synthetic silica with an extremely high surface area. If using this silica as a carrier for easy oxidizable liquids, a possibly occurring oxidizing process could be accelerated due to the high surface area of the silica. Therefore a self-ignition of the coated substance could occur.

### Hazardous decomposition products
None.

### Hazardous Reactions
None.

### Hazardous Polymerization
Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td>&gt; 10,000 mg/kg (rat)</td>
<td>&gt; 5,000 mg/kg (rabbit)</td>
<td>0.139 mg/l / 4 h (rat) (maximum concentration attainable in experiments) No deaths occurred</td>
</tr>
</tbody>
</table>

### Chronic effects
None known.

### Carcinogenicity
Not a carcinogen.

### Mutagenic effects
None known.
Reproductive toxicity

None known.

12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Microtox</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td></td>
<td>&gt;10,000 mg/l / 96 h</td>
<td></td>
<td>&gt; 10,000 mg/l / 24 h</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Incineration is the preferred method.

Contaminated packaging

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO
Not regulated

IATA
Not regulated

IMDG/IMO
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

15. REGULATORY INFORMATION

International Inventories

USA (TSCA) Complies
Canada (DSL) Complies
European Union (EINECS) Complies
Japan (ENCS) Complies
China (IECSC) Complies
Korea (KECL) Complies
Philippines (PICCS) Complies
Australia (AICS) Complies
New Zealand (NZIoC) Complies
Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Acute Health Hazard No
Chronic Health Hazard No
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactivity Hazard No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPs) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA
This product, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous, precipitated</td>
<td></td>
<td>Mexico: TWA= 10 mg/m³</td>
</tr>
</tbody>
</table>

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
Uncontrolled product.

16. OTHER INFORMATION

HMIS Rating

<table>
<thead>
<tr>
<th>Hazard Type</th>
<th>HMIS Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Hazard</td>
<td>1</td>
</tr>
<tr>
<td>Flammability Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>
Dry Precipitated Silica

Physical Hazard 0

Revision Date 27-September-12

Reason for revision Company Logo.

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS