



# SAFETY DATA SHEET

Issuing Date 01-Oct-2015

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Revision Number 0

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

### GHS product identifier

**Product Name** PSR-4000 SW01TA

### Other means of identification

**Product Code(s)** 811000

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** Solder Mask

**Uses advised against** No information available

### Supplier's details

#### **Supplier Address**

Taiyo America, Inc.  
2675 Antler Drive  
Carson City, NV 89701  
TEL: 775-885-9959

### Emergency telephone number

**Emergency Telephone Number** 775-885-9959

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

|                       |            |
|-----------------------|------------|
| Skin Sensitization    | Category 1 |
| Reproductive Toxicity | Category 2 |
| Flammable liquids     | Category 4 |

### GHS Label elements, including precautionary statements

#### Emergency Overview

|   |                |
|---|----------------|
| <b>Signal Word</b>                                    | <b>Warning</b> |
| <b>Hazard Statements</b>                              |                |
| • May cause an allergic skin reaction                 |                |
| • Suspected of damaging fertility or the unborn child |                |
| •   |                |
| • Combustible liquid.                                 |                |

**Appearance** Light blue**Physical State** Liquid.**Odor** Mild Solvent**Precautionary Statements****Prevention**

- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Keep away from heat/sparks/open flames/hot surfaces - No smoking.

**General Advice**

- Specific treatment (see supplemental instructions on the administration of antidotes on this label)
- Specific treatment (see supplemental first aid instructions on this label)

**Skin**

- IF ON SKIN: Wash with plenty of soap and water.
- If skin irritation or rash occurs: Get medical advice/attention.
- Wash contaminated clothing before reuse.

**Fire**

- In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.

**Storage**

- Store locked up.
- Store in a well-ventilated place. Keep cool.

**Disposal**

- Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**

Harmful to aquatic life with long lasting effects

69.32% of the mixture consists of ingredient(s) of unknown toxicity.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Chemical Name                                       | CAS-No      | Weight % | Trade secret |
|---|-------------|----------|--------------|
| Titanium dioxide                                    | 13463-67-7  | 30-60    | *            |
| Dipropylene glycol monomethyl ether                 | 34590-94-8  | 20-30    | *            |
| Talc  | 14807-96-6  | 1-5      | *            |
| Silicon dioxide                                     | 7631-86-9   | 1-5      | *            |
| Aluminum hydroxide                                  | 21645-51-2  | 1-5      | *            |
| Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide     | 75980-60-8  | 1- <3    | *            |
| Naphtha (petroleum), heavy aromatic                 | 64742-94-5  | 0.1-1    | *            |
| Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- | 162881-26-7 | 0.1- <1  | *            |

*\*The exact percentage (concentration) of composition has been withheld as a trade secret.*

#### 4. FIRST AID MEASURES

##### Description of necessary first-aid measures

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If symptoms persist, call a physician.  |
| <b>Skin Contact</b> | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. |
| <b>Inhalation</b>   | Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.  |
| <b>Ingestion</b>    | Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.   |

##### Most important symptoms/effects, acute and delayed

**Most Important Symptoms/Effects** May cause allergic skin reaction.

##### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to Physician** May cause sensitization by skin contact. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Suitable Extinguishing Media

Dry powder. Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Unsuitable Extinguishing Media** No information available.

##### Specific Hazards Arising from the Chemical

Combustible liquid. Vapors may travel to source of ignition and flash back. Burning produces obnoxious and toxic fumes. Risk of ignition. In the event of fire and/or explosion do not breathe fumes. Keep product and empty container away from heat and sources of ignition. May cause sensitization by skin contact.

##### Explosion Data

|   |       |
|---|-------|
| <b>Sensitivity to Mechanical Impact</b> | None. |
| <b>Sensitivity to Static Discharge</b>  | Yes.  |

##### Protective Equipment and Precautions for Firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Ensure adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. Pay attention to flashback.

##### Environmental Precautions

**Environmental Precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid release to the environment. See Section 12 for additional Ecological Information.

##### Methods and materials for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up**

Use personal protective equipment. Dam up. Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Handling**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Take precautionary measures against static discharges. In case of insufficient ventilation, wear suitable respiratory equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Keep away from heat, sparks and open flame. No smoking. Do not take internally. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities****Storage**

Keep in properly labeled containers. Keep away from heat and sources of ignition. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products**

Strong oxidizing agents. Strong acids. Strong bases.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters****Exposure Guidelines**

| Chemical Name                                     | ACGIH TLV                                    | OSHA PEL   | NIOSH IDLH  |
|---|--|--|---|
| Titanium dioxide<br>13463-67-7                    | TWA: 10 mg/m <sup>3</sup>                    | TWA: 15 mg/m <sup>3</sup> total dust<br>(vacated) TWA: 10 mg/m <sup>3</sup> total dust   | IDLH: 5000 mg/m <sup>3</sup>  |
| Dipropylene glycol monomethyl ether<br>34590-94-8 | STEL: 150 ppm<br>TWA: 100 ppm<br>S*          | TWA: 100 ppm<br>TWA: 600 mg/m <sup>3</sup><br>(vacated) TWA: 100 ppm<br>(vacated) TWA: 600 mg/m <sup>3</sup><br>(vacated) STEL: 150 ppm<br>(vacated) STEL: 900 mg/m <sup>3</sup><br>(vacated) S* | IDLH: 600 ppm<br>TWA: 100 ppm<br>TWA: 600 mg/m <sup>3</sup><br>STEL: 150 ppm<br>STEL: 900 mg/m <sup>3</sup> |
| Talc<br>14807-96-6                                | TWA: 2 mg/m <sup>3</sup>                     | (vacated) TWA: 2 mg/m <sup>3</sup>   | IDLH: 1000 mg/m <sup>3</sup> containing no asbestos and <1% quartz<br>TWA: 2 mg/m <sup>3</sup>              |
| Silicon dioxide<br>7631-86-9                      | 10 mg/m <sup>3</sup>                         | 20 mppcf TWA; ((80)/(%) SiO <sub>2</sub> ) mg/m <sup>3</sup>   | IDLH: 3000 mg/m <sup>3</sup><br>TWA: 6 mg/m <sup>3</sup>  |
| Aluminum hydroxide<br>21645-51-2                  | TWA: 1 mg/m <sup>3</sup> respirable fraction | -  | -   |

**Appropriate engineering controls****Engineering Measures**

Showers  
Eyewash stations  
Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**  
**Skin and Body Protection**  
**Respiratory Protection**

Safety glasses with side-shields.  
Lightweight protective clothing. Impervious gloves.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

|                       |               |                       |                           |
|-----------------------|---------------|-----------------------|---------------------------|
| <b>Physical State</b> | Liquid.       | <b>Appearance</b>     | Light blue.               |
| <b>Odor</b>           | Mild Solvent. | <b>Odor Threshold</b> | No information available. |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks/ - Method</u> |
|--|-------------------|--------------------------|
| pH                                     | No data available | None known               |
| Melting Point/Range                    | No data available | None known               |
| Boiling Point/Boiling Range            | No data available | None known               |
| Flash Point                            | 78 °C / 172.4 °F  | None known               |
| Evaporation rate                       | No data available | None known               |
| Flammability (solid, gas)              | No data available | None known               |
| Flammability Limits in Air             |                   |                          |
| upper flammability limit               | No data available |                          |
| lower flammability limit               | No data available |                          |
| Vapor Pressure                         | No data available | None known               |
| Vapor Density                          | No data available | None known               |
| Specific Gravity                       | 1.653             | None known               |
| Water Solubility                       | No data available | None known               |
| Solubility in other solvents           | No data available | None known               |
| Partition coefficient: n-octanol/water | No data available | None known               |
| Autoignition Temperature               | No data available | None known               |
| Decomposition Temperature              | No data available | None known               |
| Viscosity                              | No data available | None known               |

**Flammable Properties**                      Combustible liquid.

**Explosive Properties**                      No data available

**Oxidizing Properties**                      No data available

**Other information**

**VOC Content (%)**                              No data available

**VOC (g/l)**                                        429.6

**10. STABILITY AND REACTIVITY****Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Incompatible products. Heat, flames and sparks.

**Incompatible materials**

Strong oxidizing agents. Strong acids. Strong bases.

**Hazardous decomposition products**

Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Avoid breathing vapors or mists.             |
| <b>Eye Contact</b>  | Contact with eyes may cause irritation.      |
| <b>Skin Contact</b> | May cause allergic skin reaction             |
| <b>Ingestion</b>    | There is no data available for this product. |

| Chemical Name                       | LD50 Oral             | LD50 Dermal             | LC50 Inhalation                     |
|-------------------------------------|-----------------------|-------------------------|-------------------------------------|
| Titanium dioxide                    | > 10000 mg/kg ( Rat ) | -                       | -                                   |
| Dipropylene glycol monomethyl ether | = 5230 mg/kg ( Rat )  | = 9500 mg/kg ( Rabbit ) | -                                   |
| Silicon dioxide                     | > 5000 mg/kg ( Rat )  | > 2000 mg/kg ( Rabbit ) | >2.2 mg/L ( Rat ) 4 h               |
| Naphtha (petroleum), heavy aromatic | > 5000 mg/kg ( Rat )  | > 2 mL/kg ( Rabbit )    | > 590 mg/m <sup>3</sup> ( Rat ) 4 h |

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** No information available.

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Sensitization** May cause sensitization of susceptible persons. May cause sensitization by skin contact.  
**Mutagenic Effects** No information available.  
**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product.

| Chemical Name    | ACGIH | IARC     | NTP | OSHA |
|------------------|-------|----------|-----|------|
| Titanium dioxide |       | Group 2B | -   | -    |
| Silicon dioxide  |       | Group 3  |     |      |

#### **IARC: (International Agency for Research on Cancer)**

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to its Carcinogenicity to Humans

**Reproductive Toxicity** Suspected of damaging fertility or the unborn child.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organ Effects** Respiratory system. Eyes. Central nervous system (CNS). Central vascular system (CVS). Lungs.  
**Aspiration Hazard** No information available.

#### Numerical measures of toxicity - Product

**Acute Toxicity** 69.32% of the mixture consists of ingredient(s) of unknown toxicity.

*The following values are calculated based on chapter 3.1 of the GHS document:*

**LD50 Oral** 6330 mg/kg; Acute toxicity estimate

**LD50 Dermal** 11497 mg/kg; Acute toxicity estimate

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic life with long lasting effects.

| Chemical Name | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|---------------|-------------------|------------------|----------------------------|----------------------------|
|               |                   |                  |                            |                            |

|   |   |   |  |   |
|---|---|---|--|---|
| Dipropylene glycol monomethyl ether<br>34590-94-8 |   | LC50 96 h: > 10000 mg/L static (Pimephales promelas)  |  | LC50 48 h: = 1919 mg/L (Daphnia magna)      |
| Talc<br>14807-96-6                                |   | LC50 96 h: > 100 g/L semi-static (Brachydanio rerio)  |  |   |
| Silicon dioxide<br>7631-86-9                      | EC50 72 h: = 440 mg/L (Pseudokirchneriella subcapitata) | LC50 96 h: = 5000 mg/L static (Brachydanio rerio)   |  | EC50 48 h: = 7600 mg/L (Ceriodaphnia dubia) |
| Naphtha (petroleum), heavy aromatic<br>64742-94-5 | EC50 72 h: = 2.5 mg/L (Skeletonema costatum)            | LC50 96 h: = 19 mg/L static (Pimephales promelas)<br>LC50 96 h: = 2.34 mg/L (Oncorhynchus mykiss)<br>LC50 96 h: = 1740 mg/L static (Lepomis macrochirus)<br>LC50 96 h: = 45 mg/L flow-through (Pimephales promelas)<br>LC50 96 h: = 41 mg/L (Pimephales promelas) |  | EC50 48 h: = 0.95 mg/L (Daphnia magna)      |

**Persistence and Degradability** No information available.

#### Bioaccumulation

| Chemical Name                       | Log Pow   |
|-------------------------------------|-----------|
| Dipropylene glycol monomethyl ether | -0.064    |
| Naphtha (petroleum), heavy aromatic | 2.9 - 6.1 |

#### Other Adverse Effects

No information available.

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging** Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

**Note:** According to 49 CFR §173.150(f)(1), this material should be reclassified as NA1993, Combustible Liquid, NOS if it is shipped in bulk.

**DOT** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

#### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### U.S. Federal Regulations

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               | Yes |
| Chronic Health Hazard             | Yes |
| Fire Hazard                       | Yes |
| Sudden Release of Pressure Hazard | No  |
| Reactive 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).

**CERCLA**

This material, 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****California Proposition 65**

This product contains the following Proposition 65 chemicals:

| Chemical Name    | CAS-No     | California Prop. 65 |
|------------------|------------|---------------------|
| Titanium dioxide | 13463-67-7 | Carcinogen          |

**U.S. State Right-to-Know Regulations**

"X" designates that the ingredients are listed on the state right to know list.

| Chemical Name                       | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|-------------------------------------|------------|---------------|--------------|----------|--------------|
| Titanium dioxide                    |            | X             |              |          | X            |
| Dipropylene glycol monomethyl ether | X          | X             | X            | X        | X            |
| Talc                                | X          | X             | X            |          | X            |
| Silicon dioxide                     | X          | X             | X            |          |              |

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION**

|             |                  |                |                   |                                 |
|-------------|------------------|----------------|-------------------|---------------------------------|
| <b>NFPA</b> | Health Hazard 2  | Flammability 2 | Instability 0     | Physical and Chemical Hazards - |
| <b>HMIS</b> | Health Hazard 2* | Flammability 2 | Physical Hazard 0 | Personal Protection X           |

\*Indicates a chronic health hazard.

**Prepared By** Product Stewardship  
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1-800-572-6501

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**Revision Note** Initial Release.

**General 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 Safety Data Sheet**