



SAFETY DATA SHEET

Issuing Date 24-May-2015

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Revision Number 0

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 400425, 400429, 400031

Product Name PSR-4000 MP Green, PSR-4000 MP Black, PIHP-200 Part A

Contains Quartz, 1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Solder mask part A

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Company

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

For further information, please contact

E-mail Address No information available.

1.4. Emergency telephone number

Emergency Telephone Number 775-885-9959

Europe	112
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Section 2. Hazards identification

2.1. - Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute Oral Toxicity	Category 4
Reproductive Toxicity	Category 1B
Chronic Aquatic Toxicity	Category 3

Physical Hazards

None

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s) T - Toxic

R-code(s) Carc. cat. 1;R49 - Repr. cat. 1;R60 - Repr. cat. 1;R61 - Xn;R48/20 - R52-53

For the full text of the R-phrases mentioned in this Section, see Section 16

2.2. Label Elements



Signal Word

Danger

Hazard Statements

H302 - Harmful if swallowed
 H360 - May damage fertility or the unborn child
 H412 - Harmful to aquatic life with long lasting effects
 EUH210 - Safety data sheet available on request

Precautionary Statements

P270 - Do not eat, drink or smoke when using this product
 P201 - Obtain special instructions before use
 P281 - Use personal protective equipment as required
 P308 + P313 - IF exposed or concerned: Get medical advice/ attention
 P273 - Avoid release to the environment
 P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other information

Section 3. Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical Name	EC-No	CAS-No	Weight %	Classification	EU - GHS Substance Classification	REACH No.
Quartz	Present	14808-60-7	30-60	-	STOT RE 2 (H373)	No data available
Dipropylene glycol monomethyl ether	Present	34590-94-8	5-10	-		No data available
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Present	71868-10-5	1-5	R60 R61 Xn; R22 N; R51-53	Repr. 1B H360FD Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)	No data available
Silicon dioxide	Present	7631-86-9	0-5	-		No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16

Section 4. First aid measures

4.1. Description of first-aid measures

General Advice

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician if necessary.
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
Protection of First-aiders	Use personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

4.3. Indication of immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Dry powder.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

Combustible material. Vapors may travel to source of ignition and flash back.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. 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.

6.3. Methods and materials for containment and 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.

6.4. Reference to other sections

See Section 12 for additional information.

Section 7. Handling and storage

7.1. Precautions for Safe Handling

Handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from heat, sparks and open flame. No smoking. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Do not take internally.

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Exposure Scenario

No information available.

Other Guidelines

No information available.

Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical Name	EU	The United Kingdom	France	Spain	Germany
Quartz 14808-60-7		STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³	
Dipropylene glycol monomethyl ether 34590-94-8	S* TWA 50 ppm TWA 308 mg/m ³	STEL: 150 ppm STEL: 924 mg/m ³ TWA: 50 ppm TWA: 308 mg/m ³ Skin	TWA: 50 ppm TWA: 308 mg/m ³	S* TWA: 50 ppm TWA: 308 mg/m ³	TWA: 50 ppm TWA: 310 mg/m ³ Ceiling / Peak: 50 ppm Ceiling / Peak: 310 mg/m ³
Silicon dioxide 7631-86-9		STEL: 18 mg/m ³ STEL: 7.2 mg/m ³ TWA: 6 mg/m ³ TWA: 2.4 mg/m ³			TWA: 4 mg/m ³
Component	Italy	Portugal	The Netherlands	Finland	Denmark
Quartz 14808-60-7 (30-60)		TWA: 0.025 mg/m ³	TWA: 0.075 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³
Dipropylene glycol monomethyl ether 34590-94-8 (5-10)	TWA: 50 ppm TWA: 308 mg/m ³ Skin	STEL: 150 ppm TWA: 100 ppm	TWA: 300 mg/m ³	TWA: 50 ppm TWA: 310 mg/m ³ Skin	TWA: 50 ppm TWA: 309 mg/m ³ Skin
Silicon dioxide 7631-86-9 (0-5)				TWA: 5 mg/m ³	
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Quartz 14808-60-7	TWA: 0.15 mg/m ³	TWA: 0.15 mg/m ³	TWA: 2 mg/m ³ TWA: 0.3 mg/m ³ TWA: 4.0 mg/m ³ TWA: 1.0 mg/m ³	TWA: 0.3 mg/m ³ TWA: 0.1 mg/m ³ STEL: 0.9 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³
Dipropylene glycol monomethyl ether 34590-94-8	Skin STEL 100 ppm STEL 614 mg/m ³ TWA: 50 ppm TWA: 307 mg/m ³	STEL: 50 ppm STEL: 300 mg/m ³ TWA: 50 ppm TWA: 300 mg/m ³	STEL: 480 mg/m ³ TWA: 240 mg/m ³	TWA: 50 ppm TWA: 300 mg/m ³ Skin STEL: 75 ppm STEL: 375 mg/m ³	TWA: 50 ppm TWA: 308 mg/m ³ Skin

Silicon dioxide 7631-86-9	TWA: 4 mg/m ³ TWA: 0.3 mg/m ³	TWA: 4 mg/m ³ TWA: 0.3 mg/m ³		TWA: 1.5 mg/m ³ STEL: 3 mg/m ³	TWA: 6 mg/m ³ TWA: 2.4 mg/m ³
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Derived No Effect Level No information available
Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.
Personal protective equipment
Eye Protection Safety glasses with side-shields.
Skin and Body Protection Lightweight protective clothing.
Hand Protection Impervious gloves.
Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental Exposure Controls Do not allow material to contaminate ground water system.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Viscous liquid
Appearance Green or Black
Odor Mild Solvent

<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	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Vapor Pressure	No data available	None known
Vapor Density	No data available	None known
Relative Density	No data available	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 material: may burn but does not ignite readily.	
Explosive Properties	No data available	
Oxidizing Properties	No data available	

9.2. Other information

VOC Content (%) 20
VOC (g/l) 293
Flammability Limits in Air No data available

Section 10. Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon dioxide (CO₂). Carbon monoxide (CO). Sulfur oxides.

Section 11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Product Information

Inhalation

There is no data available for this product.

Eye Contact

There is no data available for this product.

Skin Contact

There is no data available for this product.

Ingestion

Harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Quartz	= 500 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

Sensitization

No information available.

Mutagenic Effects

No information available.

Carcinogenic Effects

This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product

Reproductive Toxicity

Contains a known or suspected reproductive toxin. May damage fertility or the unborn child

Developmental Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Target Organ Effects

Blood. Central nervous system (CNS). Central vascular system (CVS). Eyes. Gastrointestinal tract (GI). Kidney. Liver. Lungs. Respiratory system. Skin.

Aspiration Hazard

No information available.

Section 12. Ecological information

12.1. Toxicity

Ecotoxicity Effects

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		LC50 96 h: > 10000 mg/L static (Pimephales promelas)		LC50 48 h: = 1919 mg/L (Daphnia magna)
Silicon dioxide	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)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential.

Chemical Name	Log Pow
Dipropylene glycol monomethyl ether	-0.064

12.4. Mobility in soil

Adsorbs on soil.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

This product does not contain any known or suspected endocrine disruptors.

Section 13. Disposal considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products

Dispose of in accordance with local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. Transport information

IMDG/IMO

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Marine Pollutant	None.
14.6. Special Provisions	None.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available.

RID

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

ADR

14.1. UN-Number	Not regulated.
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14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

ICAO

14.1. UN-Number	Not regulated.
14.2. Proper shipping name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

IATA

14.1. UN-Number	Not regulated.
14.2. Proper Shipping Name	Not regulated.
14.3. Hazard Class	Not regulated.
14.4. Packing Group	Not regulated.
Description	Not applicable.
14.5. Environmental hazard	None.
14.6. Special Provisions	None.

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

Section 16. Other information

Full text of R-phrases referred to under Sections 2 and 3

R49 - May cause cancer by inhalation
R60 - May impair fertility
R61 - May cause harm to the unborn child
R22 - Harmful if swallowed

R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H411 - Toxic to aquatic life with long lasting effects
H373 - May cause damage to organs through prolonged or repeated exposure if inhaled
H360 - May damage fertility or the unborn child
H360FD - May damage fertility. May damage the unborn child
H412 - Harmful to aquatic life with long lasting effects
EUH210 - Safety data sheet available on request

Key literature references and sources for data

www.ChemADVISOR.com/

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Revision Note Initial Release.

This safety data sheet complies with the requirements of Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006

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