SAFETY DATA SHEET

Issuing Date 24-May-2015 **Revision Date** 15-Jun-2015 **Revision Number** 1

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

1.1. Product identifier

Product Code(s) 400453, 400463, 400447, 400464, 400458, 400455, 400459, 400457, 400466

Product Name **PSR-4000 HFX All Colors**

Synonyms PSR-4000 HFX Gloss Black, PSR-4000 HFX Matte Black, PSR-4000 HFX Matte Blue, PSR-4000 HFX Satin, PSR-4000 HFX Satin Black, PSR-4000 HFX Satin Blue, PSR-4000 HFX Satin Clear, PSR-4000 HFX Satin Red, PSR-4000 HFX Satin White

Contains 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

Section 2. Hazards identification

2.1. - Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Reproductive Toxicity	Category 1B
Chronic Aquatic Toxicity	Category 3

Physical Hazards

None

2.2. Label Elements

Signal Word **Danger**

Hazard Statements
H303 - May be harmful if swallowed
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
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 %	EU - GHS Substance Classification	REACH No.
Barium sulfate	Present	7727-43-7	2.5-30		No data available
Titanium dioxide	236-675-5	13463-67-7	0-25		No data available
Iron manganese oxide ((Fe,Mn)2O3)	-	75864-23-2	0-15		No data available
Talc	238-877-9	14807-96-6	1-5		No data available
1-Propanone, 2-methyl-1-[4-(methylthio)phenyl]-2-(4-morpholinyl)-	Present	71868-10-5	0-5	Repr. 1B H360FD Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)	No data available
Naphtha (petroleum), heavy aromatic	Present	64742-94-5	1-5	Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	278-355-8	75980-60-8	0-1	Repr. 2 (H361f)	No data available

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 (CO_2). 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
None in particular.

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
Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. 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
Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. 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. Do not eat, drink or smoke when using this product. Do not take internally. Wash thoroughly after handling.

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

7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

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
Barium sulfate 7727-43-7		STEL: 30 mg/m³ STEL: 12 mg/m³ TWA: 10 mg/m³ TWA: 4 mg/m³		TWA: 10 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³ Ceiling / Peak: 4 mg/m³
Titanium dioxide 13463-67-7		STEL: 30 mg/m³ STEL: 12 mg/m³ TWA: 10 mg/m³ TWA: 4 mg/m³	VME: 10 mg/m³	VLA-ED: 10 mg/m³	
Iron manganese oxide ((Fe,Mn)2O3) 75864-23-2		TWA: 0.5 mg/m³		VLA-ED: 1 mg/m³ VLA-ED: 0.2 mg/m³	MAK: 0.2 mg/m³ MAK: 0.02 mg/m³ Ceiling / Peak: 1.6 mg/m³ Ceiling / Peak: 0.16 mg/m³ TWA: 0.5 mg/m³
Talc 14807-96-6		STEL: 3 mg/m³ TWA: 1 mg/m³		TWA: 2 mg/m³	
Component	**Italy**	**Portugal**	**The Netherlands**	**Finland**	**Denmark**
Barium sulfate 7727-43-7 (2.5-30)		TWA: 10 mg/m³			
Titanium dioxide 13463-67-7 (0-25)		TWA: 10 mg/m³			TWA: 6 mg/m³
Iron manganese oxide ((Fe,Mn)2O3) 75864-23-2 (0-15)		TWA: 1 mg/m³ TWA: 0.2 mg/m³		TWA: 1 mg/m³ TWA: 0.2 mg/m³ TWA: 0.1 mg/m³	TWA: 0.2 mg/m³
Talc 14807-96-6 (1-5)		TWA: 2 mg/m³	TWA: 0.25 mg/m³	TWA: 0.5 fiber/cm3 TWA: 5 mg/m³	TWA: 0.3 fiber/cm3
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
Barium sulfate 7727-43-7				TWA: 0.5 mg/m³ STEL: 1.5 mg/m³	TWA: 2 mg/m³ STEL: 6 mg/m³
Titanium dioxide 13463-67-7	STEL 10 mg/m³ MAK: 5 mg/m³	MAK: 3 mg/m³	NDSCh: 30 mg/m³ NDS: 10.0 mg/m³	TWA: 5 mg/m³ STEL: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³
Iron manganese oxide ((Fe,Mn)2O3) 75864-23-2	STEL 2 mg/m³ MAK: 0.5 mg/m³	MAK: 1 mg/m³ MAK: 0.5 mg/m³	NDS: 0.3 mg/m³	TWA: 1 mg/m³ TWA: 0.1 mg/m³ STEL: 3 ppm STEL: 0.3 mg/m³	TWA: 0.2 mg/m³
Talc 14807-96-6	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 4.0 mg/m³ TWA: 1.0 mg/m³	TWA: 6 mg/m³ TWA: 2 mg/m³ STEL: 12 mg/m³ STEL: 4 mg/m³	TWA: 10 mg/m³ TWA: 0.8 mg/m³

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Iron manganese oxide ((Fe,Mn)2O3) 75864-23-2					20 µg/L whole blood end of shift Manganese 20 µg/L whole blood end of several shifts Manganese for long-term exposures
Chemical Name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**

Iron manganese oxide ((Fe,Mn)2O3) 75864-23-2		20 µg/L whole blood end of shift, and after several shifts (for long-term exposures) Manganese Q			

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** Varies.
Odor Mild Solvent

Property	Values	Remarks/ - Method
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	107 °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	1.38	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 (%) 28
VOC (g/l) 360-440
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.

10.5. Incompatible materials
Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products
Carbon dioxide (CO_2). 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 May be harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Titanium dioxide	> 10000 mg/kg (Rat)		
Naphtha (petroleum), heavy aromatic	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m³ (Rat) 4 h

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenic Effects No information available.

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)
Talc		LC50 96 h: > 100 g/L semi-static (Brachydanio rerio)		

Naphtha (petroleum), heavy aromatic	EC50 72 h: = 2.5 mg/L (Skeletonema costatum)	LC50 96 h: = 19 mg/L static (Pimephales promelas) LC50 96 h: = 2.34 mg/L (Oncorhynchus mykiss) LC50 96 h: = 1740 mg/L static (Lepomis macrochirus) LC50 96 h: = 45 mg/L flow-through (Pimephales promelas) LC50 96 h: = 41 mg/L (Pimephales promelas)		EC50 48 h: = 0.95 mg/L (Daphnia magna)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential.

No information available.

Chemical Name	Log Pow
Naphtha (petroleum), heavy aromatic	2.9 - 6.1

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.

Other Information According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

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.
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 H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H411 - Toxic to aquatic life with long lasting effects
H304 - May be fatal if swallowed and enters airways
H412 - Harmful to aquatic life with long lasting effects
H361f - Suspected of damaging fertility
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Key literature references and sources for data
www.ChemADVISOR.com/

Issuing Date 24-May-2015

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Revision Note (M)SDS sections updated: 3.

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