



# SAFETY DATA SHEET

SDS Number: SDS/OTH-0044

Version No: 003

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

Product Name:	<b>FLOORSHIELD 861 WATER-BASED PU FINISH (PART A)</b>
Intended Use:	Polyurethane Topcoat For Floor Application
Distributed:	Nippon Paint (S) Co. Pte Ltd No. 1 First Lok Yang Road Jurong Singapore 629728
Emergency Phone Number:	(65) 6 265 5355
Fax Numbers:	(65) 6 264 1603

## 2. HAZARDS IDENTIFICATION

### GHS Classification:

#### Physical Hazard

Not classified as an physical hazard under GHS criteria

#### Health Hazard

Skin Irritation – Category 2

Eye Irritation – Category 2B

Acute Toxicity (Inhalation) – Category 4

#### Environment Hazard

Not classified as an environmental hazard under GHS criteria

#### GHS Pictogram



#### Signal Word

Warning

#### Hazard statements

H315 Causes skin irritation.

H320 Causes eye irritation.

#### Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands and forearms thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Substances</u>	<u>CAS No.</u>	<u>%</u>
Polymer	-	> 20 %
Filler / Pigment	-	< 60 %
Additives	-	< 10 %

### 4. FIRST-AID MEASURES

#### INHALATION

- Move person to fresh air and call for medical assistance immediately.
- If not breathing, give artificial respiration, if breathing is difficult, give oxygen. Keep at rest.

#### SKIN CONTACT

- In case of contact, immediately flush skin with large amounts of water and soap while removing contaminated clothing and shoes.
- If irritation persists, get medical attention.

#### EYE CONTACT

- Immediately flush eyes with large amounts of water until irritation subsides.
- Remove contact lens
- Obtain medical attention, preferably by an ophthalmologist, immediately.

#### INGESTION

- DO NOT induce vomiting unless directed to do so by a medical personnel. Never give anything by mouth to an unconscious person. Keep at rest. Get medical attention immediately.

### 5. FIRE FIGHTING MEASURES

#### SUITABLE FIRE EXTINGUISHING MEDIA

- Alcohol-resistant foam, Carbon dioxide, or dry chemical type

#### SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

- Combustion products may include and are not limited to: Carbon monoxide and Carbon dioxide.

#### SPECIAL PROTECTIVE ACTIONS FOR FIRE FIGHTERS

- Wear full protective clothing and NIOSH-approved self-contained breathing apparatus.
- Use water spray to cool fire-exposed surfaces and to protect personnel. If a leak or spill has not ignited, use water spray to disperse the vapours.
- If possible, isolate product from heat, electrical equipments, sparks and open flames.
- Avoid spraying water directly into storage containers.
- Closed containers may explode when exposed to extreme heat.
- Avoid spreading burning liquid with water, isolate liquid.
- Do not allow run-off from fire fighting to enter drains or watercourses.

### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE

- Wear appropriate protective equipment, e.g. respirators, eye protection, gloves and safety shoes.
- Avoid substance contact with eyes. Do not inhale vapours.
- Ensure supply of fresh air in enclosed rooms.

### ENVIRONMENTAL PRECAUTIONS

- Eliminate sources of ignition.
- Keep public away.
- Contain spilled liquid with sand or other non-combustible absorbent materials
- Wash area and prevent runoff into drains and sewerage system.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.

### METHODS AND MATERIALS FOR CONTAINMENTS AND CLEANING UP

- Clean up all spills immediately.
- Absorb spill with absorbent and inert material, then place in container.
- Disposal in accordance to local/national regulations.

---

## 7. HANDLING AND STORAGE

---

### PRECAUTIONS FOR SAFE HANDLING

- Use appropriate personal protective equipment
- Keep out of reach of children.
- Handle containers with care. Open slowly in order to control possible pressure release.
- Do not pressurize containers.
- Do not ingest. Do not breathe in gas/fumes/vapour. Avoid contact with skin and eyes.
- For personal protection, see section 8.
- Use only in areas from which all naked lights and other sources of ignition have been excluded.
- Take precautionary measures against static discharge
- Protect from frost and extremes of temperature.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- Keep containers tightly closed.
- Containers that are opened should be properly resealed and kept upright to prevent leakage.
- Store in cool, dry and well-ventilated place at temperature between 20°C to 40°C away from heat and sources of ignition.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### CONTROL PARAMETERS/OCCUPATIONAL LIMITS

This product does not contain components which have relevant occupational exposure limits.

### APPROPRIATE ENGINEERING CONTROL MEASURES

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
- Ensure eyewash stations and safety showers are close to the workstation location.

### PERSONAL PROTECTION

Respiratory Protection:	Use of NIOSH-approved respirators with organic vapour cartridges is recommended.
Hand Protection:	Use of solvent resistance type or chemical resistant type of protective gloves is recommended.
Eye Protection:	Use of safety glasses or goggles with side shields is recommended.
Skin / Body Protection:	Wear chemical resistant clothes and safety shoes when handling product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

Appearance	:	Liquid
Odour	:	Not available
Odour threshold	:	Not available
pH	:	Not available
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	Not applicable
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower flammability or explosive limit	:	Not available
Upper flammability or explosive limit	:	Not available
Vapour pressure	:	Not available
Vapour density	:	Not available
Relative density	:	Not available
Solubility	:	Miscible in water
Partition coefficient	:	Not available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	Not available
Viscosity	:	Not available
Solid Content	:	Approx. 55%
Specific Gravity	:	Approx. 1.25

## 10. STABILITY AND REACTIVITY

---

### REACTIVITY

- No dangerous reaction known under condition of normal use.

### CHEMICAL STABILITY

- The product is stable under recommended storage and handling conditions. (see section 7)

### POSSIBILITY OF HAZARDOUS REACTION

- Under normal conditions of storage and use, hazardous reaction will not occur.

### CONDITIONS TO AVOID

- Keep away from oxidising agents, strongly alkaline and strongly acidic materials in order to avoid exothermic reactions. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, drill, grind or expose containers to heat or sources of ignition.

### HAZARDOUS DECOMPOSITION PRODUCTS

- When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.

## 11. TOXICOLOGICAL INFORMATION

---

There is no data available on the product itself.

Toxicological information of ingredients:

#### Acute Oral toxicity

Harmful if swallowed.

#### Acute dermal/skin toxicity

May be harmful if in contact with skin

Acute inhalation toxicity

Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract, may cause headaches and dizziness, could be anesthetic and may have other central nervous system effects.

Skin corrosion or irritation

Causes skin irritation. Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

Serious eye damage or irritation

May be an eye irritant.

Respiratory or skin sensitisation

Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract,

Germ cell mutagenicity

No information available on the product.

Carcinogenicity

The product is not a carcinogen

Reproductive toxicity

No information available on the product.

Specific Target Organ Toxicity (STOT)- single exposure

No information available on the product.

Specific Target Organ Toxicity (STOT)- repeated exposure

No information available on the product.

Aspiration hazard

No information available on the product.

---

## **12. ECOLOGICAL INFORMATION**

---

**Elimination information**

This product is non-biodegradable and is not expected to create environmental hazard unless dumped in massive quantities.

---

## **13. DISPOSAL CONSIDERATIONS**

---

The product should not be allowed to enter drains and watercourses.

Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility. Empty containers should be recycled or disposed through an approved waste management facility or licensed contractor.

All federal, state and local environmental regulations shall be observed.

---

## **14. TRANSPORT INFORMATION**

---

Transport to be in accordance with ADR/RID for road, IMDG for sea and IATA for Air.

**LAND TRANSPORT**

Not classified as Dangerous Goods by the criteria of the European Agreement concerning the international carriage of Dangerous Goods (ADR) by Road & Regulations concerning the international carriage of Dangerous goods (RID) by Rail.

### **SEA TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

### **SEA (Annex II of MARPOL 73/78 and the IBC code)**

Not applicable

### **AIR TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

---

## **15. REGULATORY INFORMATION**

---

Applicable national regulations:

- Standards on Hazard communication for hazardous chemicals and dangerous goods
  - SS 586 : Part 1: 2014- Transport and storage of dangerous goods
  - SS 586 : Part 2: 2014- GHS of classification and labelling of chemicals- Singapore's adaptations
  - SS 586 : Part 3: 2008- Preparation of safety data sheets (SDS)
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations
  - This product is subject to SDS, labelling, PEL and other requirements in the Acts/Regulations
- NEA: Environmental Protection and Management Act & Environmental Protection and Management (Hazardous Substances) Regulations.
  - This product is not subject to control under this Acts/Regulations
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is subject to the requirement of this Acts/Regulations
- SPF: The Arms and Explosive Act, the Arms and Explosives (Explosives) Rules, and the Arms and Explosives (Explosive Precursors) Rules
  - This product is not subject to the requirement of this Acts/Regulation

---

## **16. OTHER INFORMATION**

---

Revision date: 14-March-2017

### Abbreviation

ACGIH American Conference of Governmental Industrial Hygienists

TLV Threshold limit value

TWA Time-Weighted Average

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

LD50 Lethal Dose

LC50 Median lethal concentration

IACR International Agency for Research in Cancer

### Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness. Since the conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge, for this and other reasons, we make no guarantee of results and assume no liability for damages incurred by the use of this product. Please be reminded that all chemicals may present unknown health hazards and should be used with caution.



# SAFETY DATA SHEET

SDS Number: SDS/OTH-0045

Version No: 003

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

Product Name:	<b>FLOORSHIELD 861 WATER-BASED PU FINISH (PART B)</b>
Intended Use:	Hardener of Polyurethane Topcoat For Floor Application
Distributed:	Nippon Paint (S) Co. Pte Ltd No. 1 First Lok Yang Road Jurong Singapore 629728
Emergency Phone Number:	(65) 6 265 5355
Fax Numbers:	(65) 6 264 1603

## 2. HAZARDS IDENTIFICATION

### GHS Classification:

#### Physical Hazard

Not classified as an physical hazard under GHS criteria

#### Health Hazard

Skin Irritation – Category 2

Eye Irritation – Category 2B

Acute Toxicity (Inhalation) – Category 4

#### Environment Hazard

Not classified as an environmental hazard under GHS criteria

#### GHS Pictogram



#### Signal Word

Warning

#### Hazard statements

H315 Causes skin irritation.

H320 Causes eye irritation.

#### Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands and forearms thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Substances</u>	<u>CAS No.</u>	<u>%</u>
Aliphatic Polyisocyanate	-	> 50 %
Additives	-	< 50 %

### 4. FIRST-AID MEASURES

#### INHALATION

- Move person to fresh air and call for medical assistance immediately.
- If not breathing, give artificial respiration, if breathing is difficult, give oxygen. Keep at rest.

#### SKIN CONTACT

- In case of contact, immediately flush skin with large amounts of water and soap while removing contaminated clothing and shoes.
- If irritation persists, get medical attention.

#### EYE CONTACT

- Immediately flush eyes with large amounts of water until irritation subsides.
- Remove contact lens
- Obtain medical attention, preferably by an ophthalmologist, immediately.

#### INGESTION

- DO NOT induce vomiting unless directed to do so by a medical personnel. Never give anything by mouth to an unconscious person. Keep at rest. Get medical attention immediately.

### 5. FIRE FIGHTING MEASURES

#### SUITABLE FIRE EXTINGUISHING MEDIA

- Alcohol-resistant foam, Carbon dioxide, or dry chemical type

#### SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

- Combustion products may include and are not limited to: Carbon monoxide and Carbon dioxide.

#### SPECIAL PROTECTIVE ACTIONS FOR FIRE FIGHTERS

- Wear full protective clothing and NIOSH-approved self-contained breathing apparatus.
- Use water spray to cool fire-exposed surfaces and to protect personnel. If a leak or spill has not ignited, use water spray to disperse the vapours.
- If possible, isolate product from heat, electrical equipments, sparks and open flames.
- Avoid spraying water directly into storage containers.
- Closed containers may explode when exposed to extreme heat.
- Avoid spreading burning liquid with water, isolate liquid.
- Do not allow run-off from fire fighting to enter drains or watercourses.

### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE

- Wear appropriate protective equipment, e.g. respirators, eye protection, gloves and safety shoes.
- Avoid substance contact with eyes. Do not inhale vapours.
- Ensure supply of fresh air in enclosed rooms.

#### ENVIRONMENTAL PRECAUTIONS

- Eliminate sources of ignition.



- Keep public away.
- Contain spilled liquid with sand or other non-combustible absorbent materials
- Wash area and prevent runoff into drains and sewerage system.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.

**METHODS AND MATERIALS FOR CONTAINMENTS AND CLEANING UP**

- Clean up all spills immediately.
- Absorb spill with absorbent and inert material, then place in container.
- Disposal in accordance to local/national regulations.

---

**7. HANDLING AND STORAGE**

---

**PRECAUTIONS FOR SAFE HANDLING**

- Use appropriate personal protective equipment
- Keep out of reach of children.
- Handle containers with care. Open slowly in order to control possible pressure release.
- Do not pressurize containers.
- Do not ingest. Do not breathe in gas/fumes/vapour. Avoid contact with skin and eyes.
- For personal protection, see section 8.
- Use only in areas from which all naked lights and other sources of ignition have been excluded.
- Take precautionary measures against static discharge
- Protect from frost and extremes of temperature.

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

- Keep containers tightly closed.
- Containers that are opened should be properly resealed and kept upright to prevent leakage.
- Store in cool, dry and well-ventilated place at temperature between 20°C to 40°C away from heat and sources of ignition.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**CONTROL PARAMETERS/OCCUPATIONAL LIMITS**

This product does not contain components which have relevant occupational exposure limits.

**APPROPRIATE ENGINEERING CONTROL MEASURES**

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
- Ensure eyewash stations and safety showers are close to the workstation location.

**PERSONAL PROTECTION**

Respiratory Protection:	Use of NIOSH-approved respirators with organic vapour cartridges is recommended.
Hand Protection:	Use of solvent resistance type or chemical resistant type of protective gloves is recommended.
Eye Protection:	Use of safety glasses or goggles with side shields is recommended.
Skin / Body Protection:	Wear chemical resistant clothes and safety shoes when handling product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

Appearance	:	Liquid
Odour	:	Not available
Odour threshold	:	Not available
pH	:	Not available
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	45 °C
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower flammability or explosive limit	:	Not available
Upper flammability or explosive limit	:	Not available
Vapour pressure	:	Not available
Vapour density	:	> 1
Relative density	:	Not available
Solubility	:	Miscible in water
Partition coefficient	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
Viscosity	:	Not available
Solid Content	:	55 – 60 %
Specific Gravity	:	Approx. 1.15

## 10. STABILITY AND REACTIVITY

---

### REACTIVITY

- No dangerous reaction known under condition of normal use.

### CHEMICAL STABILITY

- The product is stable under recommended storage and handling conditions. (see section 7)

### POSSIBILITY OF HAZARDOUS REACTION

- Under normal conditions of storage and use, hazardous reaction will not occur.

### CONDITIONS TO AVOID

- Keep away from oxidising agents, strongly alkaline and strongly acidic materials in order to avoid exothermic reactions. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, drill, grind or expose containers to heat or sources of ignition.
- Reacts with alcohols, amines, bases, water and aqueous solutions, protic solvents with release of CO<sub>2</sub> and risk of a pressure build up in confined area

### HAZARDOUS DECOMPOSITION PRODUCTS

- When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.
- CO<sub>2</sub> and Nitrogen Oxides

## 11. TOXICOLOGICAL INFORMATION

---

There is no data available on the product itself.

Toxicological information of ingredients:

### Acute Oral toxicity

Harmful if swallowed.

Acute dermal/skin toxicity

May be harmful if in contact with skin

Acute inhalation toxicity

Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract, may cause headaches and dizziness, could be anesthetic and may have other central nervous system effects.

Skin corrosion or irritation

Causes skin irritation. Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

Serious eye damage or irritation

May be an eye irritant.

Respiratory or skin sensitisation

Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract,

Germ cell mutagenicity

No information available on the product.

Carcinogenicity

The product is not a carcinogen

Reproductive toxicity

No information available on the product.

Specific Target Organ Toxicity (STOT)- single exposure

No information available on the product.

Specific Target Organ Toxicity (STOT)- repeated exposure

No information available on the product.

Aspiration hazard

No information available on the product.

---

## 12. ECOLOGICAL INFORMATION

---

**Elimination information**

**This product is non-biodegradable. May be harmful to environment.**

---

## 13. DISPOSAL CONSIDERATIONS

---

The product should not be allowed to enter drains and watercourses.

Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility. Empty containers should be recycled or disposed through an approved waste management facility or licensed contractor.

All federal, state and local environmental regulations shall be observed.

---

## 14. TRANSPORT INFORMATION

---

Transport to be in accordance with ADR/RID for road, IMDG for sea and IATA for Air.

**LAND TRANSPORT**

Not classified as Dangerous Goods by the criteria of the European Agreement concerning the international carriage of Dangerous Goods (ADR) by Road & Regulations concerning the international carriage of Dangerous goods (RID) by Rail.

**SEA TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

**SEA (Annex II of MARPOL 73/78 and the IBC code)**

Not applicable

**AIR TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

---

**15. REGULATORY INFORMATION**

---

Applicable national regulations:

- Standards on Hazard communication for hazardous chemicals and dangerous goods
  - SS 586 : Part 1: 2014- Transport and storage of dangerous goods
  - SS 586 : Part 2: 2014- GHS of classification and labelling of chemicals- Singapore's adaptations
  - SS 586 : Part 3: 2008- Preparation of safety data sheets (SDS)
  
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations
  - This product is subject to SDS, labelling, PEL and other requirements in the Acts/Regulations
  
- NEA: Environmental Protection and Management Act & Environmental Protection and Management (Hazardous Substances) Regulations.
  - This product is not subject to control under this Acts/Regulations
  
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is subject to the requirement of this Acts/Regulations
  
- SPF: The Arms and Explosive Act, the Arms and Explosives (Explosives) Rules, and the Arms and Explosives (Explosive Precursors) Rules
  - This product is not subject to the requirement of this Acts/Regulations

## 16. OTHER INFORMATION

---

Revision date: 14-March-2017

### Abbreviation

ACGIH American Conference of Governmental Industrial Hygienists

TLV Threshold limit value

TWA Time-Weighted Average

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

LD50 Lethal Dose

LC50 Median lethal concentration

IACR International Agency for Research in Cancer

### Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness. Since the conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge, for this and other reasons, we make no guarantee of results and assume no liability for damages incurred by the use of this product. Please be reminded that all chemicals may present unknown health hazards and should be used with caution.



# SAFETY DATA SHEET

SDS Number: SDS/OTH-0046

Version No: 003

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

Product Name:	<b>FLOORSHIELD 861 WATER-BASED PU FINISH (PART C)</b>
Intended Use:	Anti Slip Additive of Polyurethane Topcoat For Floor Application
Distributed:	Nippon Paint (S) Co. Pte Ltd No. 1 First Lok Yang Road Jurong Singapore 629728
Emergency Phone Number:	(65) 6 265 5355
Fax Numbers:	(65) 6 264 1603

## 2. HAZARDS IDENTIFICATION

### GHS Classification:

#### Physical Hazard

Not classified as an physical hazard under GHS criteria

#### Health Hazard

Carcinogenicity – Category 1

Skin Irritation – Category 2

Eye Irritation – Category 2B

Acute Toxicity (Inhalation) – Category 4

#### Environment Hazard

Not classified as an environmental hazard under GHS criteria

#### GHS Pictogram



#### Signal Word

Danger

#### Hazard statements

H315 Causes skin irritation.

H320 Causes eye irritation.

H350 May cause cancer.

#### Precautionary statements

P201 Obtain special instructions before use,

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash hands and forearms thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313 If exposed or concerned: Get medical advice/attention.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with Singapore regulations.

---

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

---

<u>Substances</u>	<u>CAS No.</u>	<u>%</u>
Silicon Dioxide	7631-86-9	> 70 %

---

### 4. FIRST-AID MEASURES

---

#### INHALATION

- Move person to fresh air and call for medical assistance immediately.
- If not breathing, give artificial respiration, if breathing is difficult, give oxygen. Keep at rest.

#### SKIN CONTACT

- In case of contact, immediately flush skin with large amounts of water and soap while removing contaminated clothing and shoes.
- If irritation persists, get medical attention.

#### EYE CONTACT

- Immediately flush eyes with large amounts of water until irritation subsides.
- Remove contact lens
- Obtain medical attention, preferably by an ophthalmologist, immediately.

#### INGESTION

- DO NOT induce vomiting unless directed to do so by a medical personnel. Never give anything by mouth to an unconscious person. Keep at rest. Get medical attention immediately.

---

### 5. FIRE FIGHTING MEASURES

---

#### SUITABLE FIRE EXTINGUISHING MEDIA

- Alcohol-resistant foam, Carbon dioxide, or dry chemical type

#### SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

- Combustion products may include and are not limited to: Carbon monoxide and Carbon dioxide.

#### SPECIAL PROTECTIVE ACTIONS FOR FIRE FIGHTERS

- Wear full protective clothing and NIOSH-approved self-contained breathing apparatus.
- Use water spray to cool fire-exposed surfaces and to protect personnel. If a leak or spill has not ignited, use water spray to disperse the vapours.
- If possible, isolate product from heat, electrical equipments, sparks and open flames.
- Avoid spraying water directly into storage containers.
- Closed containers may explode when exposed to extreme heat.

- Avoid spreading burning liquid with water, isolate liquid.
- Do not allow run-off from fire fighting to enter drains or watercourses.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

### PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURE

- Wear appropriate protective equipment, e.g. respirators, eye protection, gloves and safety shoes.
- Avoid substance contact with eyes. Do not inhale vapours.
- Ensure supply of fresh air in enclosed rooms.

### ENVIRONMENTAL PRECAUTIONS

- Eliminate sources of ignition.
- Keep public away.
- Contain spilled liquid with sand or other non-combustible absorbent materials
- Wash area and prevent runoff into drains and sewerage system.
- Advise authorities if substance has entered a watercourse or sewer or has contaminated soil or vegetation.

### METHODS AND MATERIALS FOR CONTAINMENTS AND CLEANING UP

- Clean up all spills immediately.
- Absorb spill with absorbent and inert material, then place in container.
- Disposal in accordance to local/national regulations.

---

## 7. HANDLING AND STORAGE

---

### PRECAUTIONS FOR SAFE HANDLING

- Use appropriate personal protective equipment
- Keep out of reach of children.
- Handle containers with care. Open slowly in order to control possible pressure release.
- Do not pressurize containers.
- Do not ingest. Do not breathe in gas/fumes/vapour. Avoid contact with skin and eyes.
- For personal protection, see section 8.
- Use only in areas from which all naked lights and other sources of ignition have been excluded.
- Take precautionary measures against static discharge
- Protect from frost and extremes of temperature.

### CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- Keep containers tightly closed.
- Containers that are opened should be properly resealed and kept upright to prevent leakage.
- Store in cool, dry and well-ventilated place at temperature between 20°C to 40°C away from heat and sources of ignition.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### CONTROL PARAMETERS/OCCUPATIONAL LIMITS

This product does not contain components which have relevant occupational exposure limits.

### APPROPRIATE ENGINEERING CONTROL MEASURES

- Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits.
- Ensure eyewash stations and safety showers are close to the workstation location.

### PERSONAL PROTECTION

Respiratory Protection: Use of NIOSH-approved respirators with organic vapour cartridges is recommended.

Hand Protection: Use of solvent resistance type or chemical resistant type of protective gloves is recommended.



Eye Protection: Use of safety glasses or goggles with side shields is recommended.  
Skin / Body Protection: Wear chemical resistant clothes and safety shoes when handling product.

---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

Appearance	:	Powder
Odour	:	Not available
Odour threshold	:	Not available
pH	:	Not available
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	Not Applicable
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower flammability or explosive limit	:	Not available
Upper flammability or explosive limit	:	Not available
Vapour pressure	:	Not available
Vapour density	:	Not available
Relative density	:	Not available
Solubility	:	Negligible
Partition coefficient	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
Viscosity	:	Not available
Solid Content	:	Not Applicable
Specific Gravity	:	Not Applicable

---

**10. STABILITY AND REACTIVITY**

---

**REACTIVITY**

- No dangerous reaction known under condition of normal use.

**CHEMICAL STABILITY**

- The product is stable under recommended storage and handling conditions. (see section 7)

**POSSIBILITY OF HAZARDOUS REACTION**

- Under normal conditions of storage and use, hazardous reaction will not occur.

**CONDITIONS TO AVOID**

- Keep away from oxidising agents, strongly alkaline and strongly acidic materials in order to avoid exothermic reactions. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, drill, grind or expose containers to heat or sources of ignition.

**HAZARDOUS DECOMPOSITION PRODUCTS**

- When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.

---

**11. TOXICOLOGICAL INFORMATION**

---

There is no data available on the product itself.  
Toxicological information of ingredients:

Acute Oral toxicity

Not regard as harmful if swallow

Acute dermal/skin toxicity

Not harmful but need to wash hand after handling.

Acute inhalation toxicity

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by the deposition in the lungs of the respirable particles of crystalline silica..

Skin corrosion or irritation

Not harmful but need to wash hand after handling.

Serious eye damage or irritation

Will cause transient discomfort and irritation.

Respiratory or skin sensitisation

Vapour concentrations above the recommended exposure levels may be irritating to the eyes and the respiratory tract,

Germ cell mutagenicity

No information available on the product.

Carcinogenicity

No information available on the product.

Reproductive toxicity

No information available on the product.

Specific Target Organ Toxicity (STOT)- single exposure

No information available on the product.

Specific Target Organ Toxicity (STOT)- repeated exposure

No information available on the product.

Aspiration hazard

No information available on the product.

---

## **12. ECOLOGICAL INFORMATION**

---

**Elimination information**

This product is non-biodegradable and is not expected to create environmental hazard unless dumped in massive quantities.

---

## **13. DISPOSAL CONSIDERATIONS**

---

The product should not be allowed to enter drains and watercourses.

Preferred methods of waste disposal are incineration or biological treatment in federal/state approved facility. Empty containers should be recycled or disposed through an approved waste management facility or licensed contractor.

All federal, state and local environmental regulations shall be observed.

---

## **14. TRANSPORT INFORMATION**

---

Transport to be in accordance with ADR/RID for road, IMDG for sea and IATA for Air.

**LAND TRANSPORT**

Not classified as Dangerous Goods by the criteria of the European Agreement concerning the international carriage of Dangerous Goods (ADR) by Road & Regulations concerning the international carriage of Dangerous goods (RID) by Rail.

### **SEA TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

### **SEA (Annex II of MARPOL 73/78 and the IBC code)**

Not applicable

### **AIR TRANSPORT**

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

---

## **15. REGULATORY INFORMATION**

---

Applicable national regulations:

- Standards on Hazard communication for hazardous chemicals and dangerous goods
  - SS 586 : Part 1: 2014- Transport and storage of dangerous goods
  - SS 586 : Part 2: 2014- GHS of classification and labelling of chemicals- Singapore's adaptations
  - SS 586 : Part 3: 2008- Preparation of safety data sheets (SDS)
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations
  - This product is subject to SDS, labelling, PEL and other requirements in the Acts/Regulations
- NEA: Environmental Protection and Management Act & Environmental Protection and Management (Hazardous Substances) Regulations.
  - This product is not subject to control under this Acts/Regulations
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is subject to the requirement of this Acts/Regulations
- SPF: The Arms and Explosive Act, the Arms and Explosives (Explosives) Rules, and the Arms and Explosives (Explosive Precursors) Rules
  - This product is not subject to the requirement of this Acts/Regulations

---

## **16. OTHER INFORMATION**

---

Revision date: 14-March-2017

### Abbreviation

ACGIH American Conference of Governmental Industrial Hygienists  
TLV Threshold limit value  
TWA Time-Weighted Average  
OSHA Occupational Safety and Health Administration  
PEL Permissible Exposure Limit  
LD50 Lethal Dose  
LC50 Median lethal concentration  
IACR International Agency for Research in Cancer

### Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, the information is provided without any representation or warranty, expressed or implied, regarding its accuracy or completeness. Since the conditions of handling, storage, use and disposal are beyond our control and may be beyond our knowledge, for this and other reasons, we make no guarantee of results and assume no liability for damages incurred by the use of this product. Please be reminded that all chemicals may present unknown health hazards and should be used with caution.