SAFETY DATA SHEET

SDS Number: SDS- 70482 Version 003

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

Product Name:	**MOZZIEGUARD**
Intended Use:	Water-Based Decorative Paint
Manufacturer:	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. HAZARD IDENTIFICATION

GHS Classification:

Physical Hazard
Not classified as an physical hazard under GHS criteria

Health Hazard
Acute Toxicity:

- Oral	Category 4
Skin sensitization	Category 1

Environment Hazard

Aquatic Acute	Category 1
Aquatic Chronic	Category 1

GHS Pictogram

Signal Word
Warning

Hazard statements
H302: Harmful if swallowed
H317: May cause an allergic skin reaction
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary statements
P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P264: Wash hands thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P272: Contaminated work clothing should not be allowed out of the workplace
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response
P321: Specific treatment (see Section 4 of SDS)
P330: Rinse mouth
P363: Wash contaminated clothing before reuse
P391: Collect spillage
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+352: IF ON SKIN: Wash with soap and water
P333+313: If skin irritation or a rash occurs: Get medical advice/attention

Storage
None

Disposal
P501: Dispose of contents/container to appropriate waste site or reclaimer in accordance with local or national regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No.	% (w/w)
Bifenthrin	82657-04-3	0.75
Titanium Dioxide	13463-67-7	15-20
Acrylic polymer	NA	9 - 20

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 MEASURE

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 INCOMPATIBILTIES

- 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^{o}C to 40^{o}C away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS/OCCUPATIONAL LIMITS

	ACGIH TLV-TWA		OSHA PEL-TWA	
Ingredient	ppm	mg/m3	ppm	mg/m3
Bifenthrin	-	-	-	-
Titanium Dioxide	-	3	-	10

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 SS 513 (Part 1) approved safety shoes when handling product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Odour	:	Mild paint odour
Odour threshold	:	Not available
pH	:	7-10
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not applicable
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 available
Decomposition temperature	:	Not available
Viscosity	:	85-90 KU

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 HAZARDOURS 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.

HAZARDOURS 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.

Substances	Oral LD50 (Rat), mg/kg
Bifenthrin	5000
Titanium Dioxide	10,000
Acrylic Polymer	2000

Acute dermal/skin toxicity
May be harmful if in contact with skin

Substances	Dermal LD50 (Rabbit), mg/kg
Titanium Dioxide	10,000
Acrylic Polymer	Data not available

	Dermal LD50 (Rat), mg/kg
Bifenthrin	>2000

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.

Substances	Inhalation Vapor (Rat) LC50, mg/L/4hr
Bifenthrin	Data not available
Titanium Dioxide	Data not available
Acrylic Polymer	Data not available

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
Titanium Dioxide
The International Agency for Research on Cancer (IARC) has classified Titanium Dioxide as possibly carcinogenic to humans (Group 2B) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals

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
May be harmful if swallowed and enters airways

12. ECOLOGICAL INFORMATION

Toxicity
For spills or waste, take care to avoid contaminating environment.
Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.
There are no data available on the product itself. Ecological information of ingredients

Substances name	LC 50 (Rainbow Trout) mg/l	NOEC (Rainbow Trout) mg/l
Bifenthrin	0.000015 (96 hr exposure)	0.000094

Persistence and degradability
Biodegradation -No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Result of PBT and vPvB assessment
No data available

Other adverse effects
There is no ecotoxicological test data available on the product itself.
The product should not be allowed to enter drains or water courses

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
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.

UN Number: 3082
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s
Class: Class 9
Packaging Group: III

SEA TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

SEA (Annex II of MARPOL 73/78 and the IBC code)
Not applicable

AIR TRANSPORT
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

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
  - SS 586: Part 3: 2008(2014)-Preparation of safety data sheet
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulation
  - 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.
- NEA : Control of Vectors and Pesticides Act
  - This product is subject to control under this Acts/Regulations.
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is not 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/Version No.: 06-04-2017

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- 70482 Version 003

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

Product Name:	**MOZZIEGUARD BASE 1**
Intended Use:	Water-Based Decorative Paint
Manufacturer:	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. HAZARD IDENTIFICATION

GHS Classification:

Physical Hazard
Not classified as an physical hazard under GHS criteria

Health Hazard
Acute Toxicity:

- Oral	Category 4
Skin sensitization	Category 1

Environment Hazard

Aquatic Acute	Category 1
Aquatic Chronic	Category 1

GHS Pictogram

Signal Word
Warning

Hazard statements
H302: Harmful if swallowed
H317: May cause an allergic skin reaction
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary statements
P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P264: Wash hands thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P272: Contaminated work clothing should not be allowed out of the workplace
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response
P321: Specific treatment (see Section 4 of SDS)
P330: Rinse mouth
P363: Wash contaminated clothing before reuse
P391: Collect spillage
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+352: IF ON SKIN: Wash with soap and water
P333+313: If skin irritation or a rash occurs: Get medical advice/attention

Storage
None

Disposal
P501: Dispose of contents/container to appropriate waste site or reclaimer in accordance with local or national regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No.	% (w/w)
Bifenthrin	82657-04-3	0.75
Titanium Dioxide	13463-67-7	15-20
Acrylic polymer	NA	9 - 20

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 MEASURE

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 INCOMPATIBILTIES

- 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^{o}C to 40^{o}C away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS/OCCUPATIONAL LIMITS

	ACGIH TLV-TWA		OSHA PEL-TWA	
Ingredient	ppm	mg/m3	ppm	mg/m3
Bifenthrin	-	-	-	-
Titanium Dioxide	-	3	-	10

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 SS 513 (Part 1) approved safety shoes when handling product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Odour	:	Mild paint odour
Odour threshold	:	Not available
pH	:	7-10
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not applicable
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 available
Decomposition temperature	:	Not available
Viscosity	:	85-90 KU

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 HAZARDOURS 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.

HAZARDOURS 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.

Substances	Oral LD50 (Rat), mg/kg
Bifenthrin	5000
Titanium Dioxide	10,000
Acrylic Polymer	2000

Acute dermal/skin toxicity
May be harmful if in contact with skin

Substances	Dermal LD50 (Rabbit), mg/kg
Titanium Dioxide	10,000
Acrylic Polymer	Data not available

	Dermal LD50 (Rat), mg/kg
Bifenthrin	>2000

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.

Substances	Inhalation Vapor (Rat) LC50, mg/L/4hr
Bifenthrin	Data not available
Titanium Dioxide	Data not available
Acrylic Polymer	Data not available

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
Titanium Dioxide
The International Agency for Research on Cancer (IARC) has classified Titanium Dioxide as possibly carcinogenic to humans (Group 2B) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals

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
May be harmful if swallowed and enters airways

12. ECOLOGICAL INFORMATION

Toxicity
For spills or waste, take care to avoid contaminating environment.
Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.
There are no data available on the product itself. Ecological information of ingredients

Substances name	LC 50 (Rainbow Trout) mg/l	NOEC (Rainbow Trout) mg/l
Bifenthrin	0.000015 (96 hr exposure)	0.000094

Persistence and degradability
Biodegradation -No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Result of PBT and vPvB assessment
No data available

Other adverse effects
There is no ecotoxicological test data available on the product itself.
The product should not be allowed to enter drains or water courses

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
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.

UN Number: 3082
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s
Class: Class 9
Packaging Group: III

SEA TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

SEA (Annex II of MARPOL 73/78 and the IBC code)
Not applicable

AIR TRANSPORT
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

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
  - SS 586: Part 3: 2008(2014)-Preparation of safety data sheet
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulation
  - 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.
- NEA : Control of Vectors and Pesticides Act
  - This product is subject to control under this Acts/Regulations.
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is not 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/Version No.: 06-04-2017

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- 70481 Version 003

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

Product Name:	**MOZZIEGUARD BASE 2**
Intended Use:	Water-Based Decorative Paint
Manufacturer:	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. HAZARD IDENTIFICATION

GHS Classification:

Physical Hazard
Not classified as an physical hazard under GHS criteria

Health Hazard
Acute Toxicity:

- Oral	Category 4
Skin sensitization	Category 1

Environment Hazard

Aquatic Acute	Category 1
Aquatic Chronic	Category 1

GHS Pictogram

Signal Word
Warning

Hazard statements
H302: Harmful if swallowed
H317: May cause an allergic skin reaction
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary statements
P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P264: Wash hands thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P272: Contaminated work clothing should not be allowed out of the workplace
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response
P321: Specific treatment (see Section 4 of SDS)
P330: Rinse mouth
P363: Wash contaminated clothing before reuse
P391: Collect spillage
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+352: IF ON SKIN: Wash with soap and water
P333+313: If skin irritation or a rash occurs: Get medical advice/attention

Storage
None

Disposal
P501: Dispose of contents/container to appropriate waste site or reclaimer in accordance with local or national regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	CAS No.	% (w/w)
Bifenthrin	82657-04-3	0.75
Titanium Dioxide	13463-67-7	8 - 12
Acrylic polymer	NA	10 - 22

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 MEASURE

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 INCOMPATIBILTIES

- 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^{o}C to 40^{o}C away from heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS/OCCUPATIONAL LIMITS

	ACGIH TLV-TWA		OSHA PEL-TWA	
Ingredient	ppm	mg/m3	ppm	mg/m3
Bifenthrin	-	-	-	-
Titanium Dioxide	-	3	-	10

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 SS 513 (Part 1) approved safety shoes when handling product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Odour	:	Mild paint odour
Odour threshold	:	Not available
pH	:	7-10
Melting point/freezing point	:	Not available
Initial boiling point and boiling range	:	Not available
Flash point	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not applicable
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 available
Decomposition temperature	:	Not available
Viscosity	:	90-95 KU

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 HAZARDOURS 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.

HAZARDOURS 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.

Substances	Oral LD50 (Rat), mg/kg
Bifenthrin	5000
Titanium Dioxide	10,000
Acrylic Polymer	2000

Acute dermal/skin toxicity
May be harmful if in contact with skin

Substances	Dermal LD50 (Rabbit), mg/kg
Titanium Dioxide	10,000
Acrylic Polymer	Data not available

	Dermal LD50 (Rat), mg/kg
Bifenthrin	>2000

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.

Substances	Inhalation Vapor (Rat) LC50, mg/L/4hr
Bifenthrin	Data not available
Titanium Dioxide	Data not available
Acrylic Polymer	Data not available

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
Titanium Dioxide
The International Agency for Research on Cancer (IARC) has classified Titanium Dioxide as possibly carcinogenic to humans (Group 2B) based on inadequate evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals

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
May be harmful if swallowed and enters airways

12. ECOLOGICAL INFORMATION

Toxicity
For spills or waste, take care to avoid contaminating environment.
Prevent spills and wastewater from entering sewers, water courses or law areas to avoid pollution.
There are no data available on the product itself. Ecological information of ingredients

Substances name	LC 50 (Rainbow Trout) mg/l	NOEC (Rainbow Trout) mg/l
Bifenthrin	0.000015 (96 hr exposure)	0.000094

Persistence and degradability
Biodegradation -No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Result of PBT and vPvB assessment
No data available

Other adverse effects
There is no ecotoxicological test data available on the product itself.
The product should not be allowed to enter drains or water courses

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
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.

UN Number: 3082
Proper shipping name: Environmentally hazardous substances, liquid, n.o.s
Class: Class 9
Packaging Group: III

SEA TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport of Sea.

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

SEA (Annex II of MARPOL 73/78 and the IBC code)
Not applicable

AIR TRANSPORT
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by Air

UN Number:	3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s
Class:	Class 9
Packaging Group:	III

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
  - SS 586: Part 3: 2008(2014)-Preparation of safety data sheet
- MOM: Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulation
  - 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.
- NEA : Control of Vectors and Pesticides Act
  - This product is subject to control under this Acts/Regulations.
- SCDF: Fire Safety Act & Fire Safety (Petroleum and Flammable Materials) Regulations
  - This product is not 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/Version No.: 06-04-2017

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

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