



PT. Indowijaya Sakti Teguh

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# **MATERIAL SAFETY DATA SHEET**

## **PUFFIN CERAMICOAT PRIMER BASE A**

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## TRADE NAME : PUFFIN CERAMICOAT PRIMER BASE A

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### 1. IDENTIFICATION OF SUBSTANCE AND COMPANY

#### Identification of Substance or Preparation

Chemical description : Epoxy  
Recommendation : Paint

#### Company / Undertaking Identificaation Supplier

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### 2. HAZARD IDENTIFICATION

#### Classification of the substance or mixture

##### Product definition :

- SKIN CORROSION/IRRITATION - Category 2
- SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
- SKIN SENSITISATION - Category 1
- LONG-TERM AQUATIC HAZARD - Category 2

##### Label elements :



Signal word: **Warning**

##### Hazard statements:

- Causes serious eye irritation.
- Causes skin irritation.
- May cause an allergic skin reaction.
- Toxic to aquatic life with long lasting effects.

## Precautionary statements

**Prevention:** Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Wash hands thoroughly after handling.

**Response:** Collect spillage. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention

**Storage:** Not applicable.

**Disposal:** Dispose of contents and container in accordance with all local, regional, national and international regulations :

**Other hazards which do not result in Classification:** None know

### 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance/mixture : mixture

Other means of identification : not available

#### CAS number / other identifiers

CAS number : not applicable

EC number : mixture

Product code : 483

<u>Ingredients name</u>	<u>%</u>	<u>CAS number</u>
<u>Epoxy resin (MW ≤ 700)</u>	≥50 - ≤75	1675-54-3
<u>Benzyl alcohol</u>	≥25 - ≤50	100-51-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section

Occupational exposure limits, if available, are listed in Section 8.

Mixture Chemical formula: Not applicable

#### **4. FIRST AID MEASURES**

##### **Description of first aid measures**

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Skin contact** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Inhalation** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse

**Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

##### **Most important symptoms/effects, acute and delayed** **Potential acute health effects**

**Eye contact** : Causes serious eye irritation.

**Skin contact** : Causes skin irritation. May cause an allergic skin reaction

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards

### **Over-exposure signs/symptoms**

- Eye contact : Adverse symptoms may include the following :painor irritation, watering ,redness
- Inhalation :No specific data.
- Skin contact :Adverse symptoms may include the following: pain or irritation,redness.
- Ingestion :No specific data.

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

- Note to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments : No specific treatment
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## **5. FIRE FIGHTING MEASURES**

### **Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire

**Unsuitable extinguishing media** : None know

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain

**Hazardous thermal decomposition products** : Decomposition products may include the following materials: carbondioxide carbon monoxide

**Special protective equipment for firefighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## **6. ACCIDENTAL RELEASE MEASURES**

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

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders:** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. Maybe harmful to the environment if released in large quantities. Collect spillage.

### **Methods and material for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13).

Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

**Protective measures :** Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities :** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

## **8. EXPOSURE CONTROLS PERSONAL PROTECTION**

### **Control parameters**

#### **Occupational exposure limits**

**Appropriate engineering controls :** Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls :** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## **Individual protection measures**

**Hygiene measures :** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection :** Safety eyewear complying to EN 166 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Hand protection :** There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred. Wear suitable gloves tested to EN374. Not recommended, gloves(breakthrough time) < 1 hour: PVC May be used, gloves(breakthrough time) 4 - 8 hours: nitrile rubber Recommended, gloves(breakthrough time) > 8 hours: Viton®, 4H, butyl rubber For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

**Body protection :** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection :** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.



**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **Information on basic physical and chemical properties**

#### **Appearance**

<b>Physical state</b>	: Liquid.
<b>Colour</b>	: Yellowing clear
<b>Odour</b>	: Low odor
<b>Odour threshold</b>	:Not Available
<b>PH</b>	:Not Applicable
<b>Melting/freezing point</b>	:Not Applicable
<b>Boiling point/boiling range</b>	:Lowest known value: 205.3°C (401.5°F) (benzyl alcohol). Weighted average: 258. 54°C (497.4°F)
<b>Flash point</b>	: Closed cup: 77°C (170.6°F)
<b>Burning time</b>	: Not applicable.
<b>Burning rate</b>	: Not applicable
<b>Evaporation rate</b>	: 0.007 (benzyl alcohol) compared with butyl acetate
<b>Flammability (solid, gas)</b>	: Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: 1.3 - 13%
<b>Vapour pressure</b>	: Highest known value: 0.007 kPa (0.05 mm Hg) (at 20°C) (benzyl alcohol). Weighted average: 0.002 kPa (0.02 mm Hg) (at 20°C)
<b>Vapour density</b>	<b>Highest known value:</b> 11.7 (Air = 1) (bis-[4-(2,3epoxipropoxi)phenyl]propane).
<b>Weighted average</b>	: 8.98 (Air = 1)
<b>Relative density</b>	:1.117 g/cm <sup>3</sup>
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.
<b>Solubility in water</b>	: Not available
<b>Partition coefficient: noctanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	<b>Flash point</b> : Lowest known value: 436°C (816.8°F) (benzyl alcohol).
<b>Decomposition temperature</b>	: Not available
<b>SADT</b>	: Not available.

**Viscosity Dynamic:** Highest known value : 10 to 12 cP (bis-[4-(2,3-epoxipropoxy)phenyl] propane) Kinematic (40C): >20.5 cSt

## **10. STABILITY AND REACTIVITY**

**Reactivity :** No specific test data related to reactivity available for this product or its ingredients.

**Chemical Stability :** The product is stable.

**Possibility of Hazardous reaction :** Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid :** No specific data

**Incompatible materials :** Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

**Hazardous Decomposition Products :** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SADT :** Not available.

## **11. TOXICOLOGICAL INFORMATION**

### **Information on toxicological effects**

Acute toxicity

Product/ingredient name	Result	species	Dose	exposure
epoxy resin (MW ≤ 700)	LD50 Demal	Rabbit	20 g/kg	-
benzyl alcohol	LD50 Oral	Rat	1230 mg/kg	-

Irritation/ corrosion

Product/ ingredient name	Result	species	score	exposure	observation
epoxy resin (MW ≤ 700)	Eyes - Severe irritant	Rabbit	-	24 hours 2mg	-
	Skin - Mild irritant	Rabbit	-	500mg	-

**Sensitisation:** Not available.

**Mutagenicity :** Not available.

**Carcinogenicity :** Not available.

**Reproductive toxicity :** Not available.

**Teratogenicity :** Not available.

**Specific target organ toxicity (single exposure) :** Not available

**Specific target organ toxicity (repeated exposure) :** Not available.

**Aspiration hazard :** Not available.

**Information on likely routes of exposure :** Not available

#### **Potential acute health effects**

**Eye contact :** Causes serious eye irritation.

**Inhalation :** No known significant effects or critical hazards.

**Skin contact :** Causes skin irritation. May cause an allergic skin reaction

**Ingestion :** No known significant effects or critical hazards.

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

**Eye contact :** Adverse symptoms may include the following: pain or irritation watering redness

**Inhalation:** No specific data.

**Skin contact :** Adverse symptoms may include the following: irritation

**Ingestion :** No specific data.

#### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

##### **Short term exposure**

**Potential immediate effects :** Not available.

**Potential delayed effects :** Not available.

### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	3640.1 mg/kg
Inhalation (vapours)	32.55 mg/l

## 12. ECOLOGICAL INFORMATION

### Toxicity

Product/ingredient name	Result	Species	Exposure
epoxy resin (MW ≤ 700)	Acute EC50 1.4 mg/l	Daphnia	48 hours
	Acute LC50 3.1 mg/l	Fish - pimephalespromelas	96 hours
	Chronic NOEC 0.3 mg/l	Fish	21 days

### Persistence/degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
epoxy resin (MW ≤ 700)	-	-	Not readily
benzyl alcohol	-	-	readily

### Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
epoxy resin (MW ≤ 700)	2.64 to 3.78	31	Low
benzyl alcohol	0.87	<100	low

### Mobility in soil

**Soil/water partition coefficient (KOC) :** Not available.




**Other adverse effects :** No known significant effects or critical hazards.

## **13. DISPOSAL CONSIDERATION**

**Disposal methods :** The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers .

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

## 14. TRANSPORT INFORMATION

	UN	IMDG	IATA
UN NUMBER	3082	3082	3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (bis-[4-(2,3-epoxipropoxy)phenyl] propane)	Environmentally hazardous substance, liquid, n.o.s. (bis-[4-(2,3-epoxipropoxy)phenyl] propane). Marine pollutant (bis-[4-(2,3-epoxipropoxy)phenyl] propane)	Environmentally hazardous substance, liquid, n.o.s. (bis-[4-(2,3-epoxipropoxy)phenyl] propane)
Transport hazard class(es)	9 	9 	9 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes.
Additional information	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. Emergency schedules (EmS) F-A, S-F	This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

### Additional information

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

**ADR / RID : Tunnel restriction code :** (-) Hazard identification number: 90 Special provisions: 274

**IMDG :** This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Special precautions for user Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of Marpol and the IBC Code :** Not available.

## **15. REGULATORY INFORMATION**

**Singapore - hazardous chemicals under government control**

None.

## **16. OTHER INFORMATION**

### **Key to abbreviations :**

- **ATE** = Acute Toxicity Estimate
- **BCF** = Bioconcentration Factor
- **GHS** = Globally Harmonized System of Classification and Labelling of Chemicals
- **IATA** = International Air Transport Association
- **IBC** = Intermediate Bulk Container
- **IMDG** = International Maritime Dangerous Goods
- **LogPow** = logarithm of the octanol/water partition coefficient
- **MARPOL** = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- **UN** = United Nations

**References :** Not available

## NOTES

PT.INDOWIJAYA SAKTI TEGUH has a responsibility to take reasonable care for our own health and safety and the health and safety of others who may be affected by our acts or omissions. This M.S.D.S. at the date of issue has Health and Safety Information of the product, and how to safely handle and use this product in the workplace.

All information given is our best knowledge, and because we cannot anticipate or control the conditions of the end use of this products, prior to usage, each user must determine by reviewing this M.S.D.S, Safe Handling and usage of this products in the Workplace.

PT.INDOWIJAYA SAKTI TEGUH believe this information to be reliable, and in good faith, but no guarantees or warranties of any kind are made as to its accuracy, suitability to particulate applications due to variations in methods, conditions and equipment. When PT.INDOWIJAYA SAKTI TEGUH provides information and service involving skill, assistance, judgment, recommendations, and or advise this is done on the best of our knowledge only; information is not be relied upon.

Full scale testing and performance of the product is the responsibility of the end user. For further information or classification of certain points to ensure that the user has made a proper assessment and reasonable precautions have been applied, please contact  
PT.INDOW