PT. IndowijayaSaktiTeguh
Jl. Pangeran Jayakarta 121/3-4, Jakarta Pusat
www.puffinpaint.com Telp : 021- 62313238

# MATERIAL SAFETY DATA SHEET

## PUFFIN WHITEBOARD BASE B

# TRADE NAME : PUFFIN WHITEBOARD BASE B

## 1. IDENTIFICATION OF SUBSTANCE AND COMPANY

**Identification of Substance or Preparation**
Chemical description : Acrylic waterbase
Recommendation : Wall paint

**Company / Undertaking Identificaation Supplier**
PT.Indowijaya Sakti Teguh
Jl.Pangeran Jayakarta No. 121/3-4, Jakarta Pusat, 10730. Indonesia
Phone : +6221 6231 3238
WA : +6287873743534 ( WA messages only )
Email : sales.support@puffinpaint.com

## 2. HAZARD IDENTIFICATION

**Classification of thesubstanceormixture**

- **FLAMMABLE LIQUIDS - Category 3**
- **ACUTE TOXICITY (inhalation) - Category 4**
- **SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A**
- **SKIN SENSITISATION - Category 1**
- **SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3**
- **SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) Category 3**

**GHS Label elements**
**Hazard pictograms :**

**Signal word : Warning.**

**Hazard statements**:
Flammable liquid and vapour.
Harmful if inhaled.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause drowsiness or dizziness.

**Precautionary statements**

**Prevention:** Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Do not breathe vapor or spray. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
**Response:** Get medical attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing 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. Immediately call a POISON CENTER or physician
**Storage:** Store locked up.Store in a well-ventilated place. Keep cool
**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 known

## 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 :** 448

| Ingredients name | % | Cas number |
|---|---|---|
| hexane, 1,6-diisocyanato-, homopolymer | ≥50 - ≤75 | 28182-81-2 |
| n-butyl acetate | ≥10 - ≤25 | 123-86-4 |
| 2-methoxy-1-methylethyl acetate | ≥10 - ≤25 | 108-65-6 |
| Xylene | <10 | 1330-20-7 |
| Ethylbenzene | ≤3 | 100-41-4 |
| tosylisocyanate | <1 | 4083-64-1 |
| hexamethylene-di-isocyanate | ≤0.3 | 822-06-0 |

**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.**

## 4. FIRST AID MEASURES

### Description of first aid measures

1. **Eye contact :** Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
2. **Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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..
3. **Skin contact :** Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
4. **Ingestion :** Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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 and effects, both acute and delayed**

**Potential acute health effects**

**Eye contact :** Causes serious eye damage

**Inhalation :** May cause respiratory irritation..

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

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

**Over-exposure signs/symptoms**

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

**Inhalation :** Adverse symptoms may include the following: respiratory tract irritation coughing.

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

**Ingestion :** Adverse symptoms may include the following: stomach pains

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

**Notes 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 dry chemical, $CO_2$, water spray (fog) or foam.

**Unsuitable extinguishing media :** Do not use water jet.

**Specific hazards arising from the chemical :**Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Run off to sewer may create fire or explosion hazard. This material is harmful 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 ,metal oxide/oxides,

**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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool

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

## 6. ACCIDENTAL RELEASE MEASURES

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

**For non-emergency personel :** 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide

adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders :** If specialized 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 nonemergency personnel".

**Environmental precautions:** Avoid dispersal of spilled 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.

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

**Small spill :** Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.Use spark-proof tools and explosion-proof equipment. Approach 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 spilled 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use

## 8. EXPOSURE CONTROLSPERSONALPROTECTION

**Control parameters**
**Occupational exposure limits**

| Ingredient name | Exposure limits |
|---|---|
| n-butyl acetate | **Workplace Safety and Health Act (Singapore, 2/2006).**<br>PEL (short term): 950 mg/m³ 15 minutes.<br>PEL (short term): 200 ppm 15 minutes.<br>PEL (long term): 713 mg/m³ 8 hours.<br>PEL (long term): 150 ppm 8 hours. |
| xylene | **Workplace Safety and Health Act (Singapore, 2/2006).**<br>PEL (short term): 651 mg/m³ 15 minutes.<br>PEL (short term): 150 ppm 15 minutes.<br>PEL (long term): 434 mg/m³ 8 hours.<br>PEL (long term): 100 ppm 8 hours |
| ethylbenzene | **Workplace Safety and Health Act (Singapore, 2/2006). Notes:**<br>PEL (long term): 100 ppm 8 hours.<br>PEL (long term): 434 mg/m³ 8 hours.<br>**Workplace Safety and Health Act (Singapore, 2/2006).**<br>PEL (short term): 543 mg/m³ 15 minutes.<br>PEL (short term): 125 ppm 15 minutes |
| hexamethylene-di-isocyanate | **Workplace Safety and Health Act (Singapore, 2/2006).**<br>PEL (long term): 0.005 ppm 8 hours.<br>PEL (long term): 0.034 mg/m³ 8 hours. |

**Appropriate engineering controls :** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**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. 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.

**Skin protection**

**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: Viton®, PE

May be used, gloves(breakthrough time) 4 - 8 hours: neoprene, butyl rubber, PVC
Recommended, gloves(breakthrough time) > 8 hours: fluor rubber, 4H, Teflon, polyvinyl alcohol (PVA), nitrile 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves

**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

**Appearaance**

| | |
|---|---|
| **Physical state** | **:** Liquid. |
| **Colour** | **:** Various colours |
| **Odour** | **:** Characteristic |
| **Odour threshold** | **:** Not Available |
| **PH** | **:** NotApplicable |
| **Melting/freezing point** | **:** NotApplicable |
| **Boiling point** | **:** 127 to 145°C (260.6 to 293°F) |
| **Flash point** | **:** Closed cup: 34°C (93.2°F) |
| **Burning time** | **:** Not applicable |
| **Burning rate** | **:** Not applicable |
| **Evaporation rate** | **:** Highest known value: 1 (n-butyl acetate) Weighted average: 0.73compared with butyl acetate |
| **Flammability (solid, gas)** | **:** Not applicable |

**Lower and upper explosive (flammable) limits :** 0.8 - 7.6%

| | |
|---|---|
| **Vapour pressure** | **:** Highest known value: 1.5 kPa (11.3 mm Hg) (at 20°C) (n-butyl acetate). Weighted average: 0.37 kPa (2.78 mm Hg) (at 20°C) |

| | |
|---|---|
| **Vapour density** | **:** Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate). Weighted average: 4.09 (Air = 1) |
| **Relative density** | **:** 1.04 g/cm³ |
| **Solubility** | **:** Insoluble in the following materials: cold water and hot water. |
| **Solubility in water** | **:** Not available. |
| **Partition coefficient: noctanol/water :** Not available. | |
| **Auto-ignition temperature.** | **:** Lowest known value: 333°C (631.4°F) (2-methoxy-1-methylethyl acetate). |
| **Decomposition temperature** | **:** Not available. |
| **SADT** | **:** Not available |
| **Viscosity** | **:** Dynamic: Highest known value: 3851.69 cP (hexane, 1,6-diisocyanato-, homopolymer) Weighted average: 3422.31 cP<br>Kinematic: Highest known value: 1.13 cSt (2-methoxy-1-methylethyl acetate)<br>Weighted average: 0.94 cSt<br>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 :** he product is stable.

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

**Conditions to avoid :** Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**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 |
|---|---|---|---|---|
| n-butyl acetate | LC50 Inhalation Vapour | Rat | >21.1 mg/l | 4 hours |
| | LD50 Dermal | Rabbit | >17600 mg/kg | - |
| | LD50 Oral | Rat | 13100 mg/kg | - |
| 2-methoxy-1-methylethyl acetate | LD50 Dermal | Rabbit | >5 g/kg | - |
| | LD50 Oral | Rat | 8532 mg/kg | - |
| xylene | LC50 Inhalation Vapour | Rat | 20 mg/l | 4 hours |
| | LD50 Oral | Rat | 4300 mg/kg | - |
| | TDLo Dermal | Rabbit | 4300 mg/kg | - |
| ethylbenzene | LC50 Inhalation Gas. | Rabbit | 4000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| | LD50 Oral | Rat | 3500 mg/kg | - |
| tosylisocyanate | LD50 Oral | Rat | 2234 mg/kg | - |
| hexamethylene-diisocyanate | LC50 Inhalation Dusts and mists | Rat | 12 mg/m³ | 4 hours |

**Irritation/ corrosion**

| Product/ ingredient name | Result | species | score | exposure | observation |
|---|---|---|---|---|---|
| Hexamethylenediisocyanate, oligomers | Eyes - Moderate irritant | Rabbit | - | 100 mg | - |
| | Skin - Severe irritant | Rabbit | - | 500 mg | - |
| xylene | Eyes - Mild irritant | Rabbit | - | 87 milligrams | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 Microliters | - |
| tosylisocyanate | Eyes - Moderate Irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 Microliters | - |
| hexamethylene-diisocyanate | Skin - Mild irritant | Mammal species unspecified | - | - | - |
| | Eyes - Mild irritant | Mammal species unspecified | - | - | - |

**Sensitisation**

| Product/ingredient name | Route of exposure | Species | Result |
|---|---|---|---|
| Hexamethylenediisocyanate, oligomers | Skin | Mammal - species Unspecified | Sensitising |
| hexamethylene-diisocyanate | skin | Mammal - species unspecified | Sensitising |

**Mutagenicity**

Not available.

**Carcinogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Teratogenicity**

Not available.

**Specific target organ toxicity (single exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Hexamethylenediisocyanate, oligo | Category 3 | Not applicable. | Respiratory tract irritation |
| n-butyl acetate | Category 3 | Not applicable. | Narcotic effects |
| 2-methoxy-1-methylethyl acetate | Category 3 | Not applicable. | Narcotic effects |
| xylene | Category 3 | Not applicable. | Respiratory tract irritation |
| tosylisocyanate | Category 3 | Not applicable. | Respiratory tract irritation |
| hexamethylene-di-isocyanate | Category 3 | Not applicable. | Respiratory tract irritation |

**Specific target organ toxicity (repeated exposure)**

| Name | Category | Route of exposure | Target organs |
|---|---|---|---|
| ethylbenzene | Category 2 | Not determined | hearing organs |

**Aspiration hazard**

| Name | Result |
|---|---|
| Xylene | ASPIRATION HAZARD - Category 1 |
| ethylbenzene | ASPIRATION HAZARD - Category 1 |

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

**Potential acute health effects**

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

**Inhalation :** Harmful if inhaled.Maycause drowsiness or dizziness. May cause respiratory irritation.

**Skin contact :** 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:
painor irritation
watering
redness

**Inhalation :** Adverse symptoms may include the following:
respiratory tract irritation
coughing

nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

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

**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.

**Potential chronic health 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** |
|---|---|
| Dermal | 13861.7 mg/kg |
| Inhalation (vapours) | 68.83 mg/l |
| Inhalation (dusts and mists) | 2.372 mg/l |

## 12. ECOLOGICAL INFORMATION

**Toxicity**

| **Product/ingredient name** | **Result** | **Species** | **Exposure** |
|---|---|---|---|
| ethylbenzene | Acute EC50 7.2 mg/l<br>Acute EC50 2.93 mg/l<br>Acute LC50 4.2 mg/l | Algae<br>Daphnia<br>Fish | 48 hours<br>48 hours<br>96 hours |

**Persistence/degradability**

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Xylene | - | - | Readily |
| ethylbenzene | - | - | Readily |

**Bioaccumulative potential**

| Product/ingredient name | LogPow | BCF | Potential |
|---|---|---|---|
| Hexamethylenediisocyanate, oligomers | 5.54 | 367.7 | Low |
| n-butyl acetate | 2.3 | - | Low |
| 2-methoxy-1-methylethyl acetate | 1.2 | - | Low |
| Xylene | 3.12 | 8.1 to 25.9 | Low |
| Ethylbenzene | 3.6 | - | Low |
| hexamethylene-di-isocyanate | 0.02 | 57.63 | Low |

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

**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 nonrecyclable 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. 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 | UN1263 | UN1263 | UN1263 |
| UN proper shipping name | Paint | Paint | Paint |
| Transport hazard class(es) | 3 | 3 | 3 |
| Packing group | III | III | III |
| Environmental hazards | No. | No. | No. |
| Additional information | - | Emergency schedules F-E, S-E | - |

**Additional information**
Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.
**ADR / RID :**Tunnel restriction code: (D/E)
Hazard identification number: 30
**IMDG :**.
**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.INDOWIJAYA SAKTI TEGUH.