SAFETY DATA SHEET

Pearl Glaze Anti-fouling Marine Paint Part A

MSDS No: C007
VERSION: C007A-01
VERSION DATE: 06/04/2013

SECTION 1: IDENTIFICATION OF PRODUCT AND COMPANY

Material/Trade Name:	**Pearl Glaze Anti-fouling Marine Paint Part A**
Material Type:	**Epoxy based**
Company:	Republic Chemical Industries, Inc.
Address:	731 Aurora Boulevard, Quezon City, 1112 Philippines
Telephone:	+63 2 721 5781 to 86
Fax:	+63 2 727 5095
Website:	www.repchem.com

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification:	Flammable Liquid	Category 3
	Acute Toxicity – Oral:	Category 5
	Acute Toxicity – Dermal:	Category 5
	Acute Toxicity – Inhalation:	Category 4
	Skin Corrosion/Irritation:	Category 2
	Serious Eye Damage/Irritation:	Category 2B
	Sensitization – Respiratory:	Category – Not classified
	Sensitization – Skin:	Category – Not classified
	STOT – Single Exposure:	Category – Not classified
	STOT – Repeated Exposure:	Category – Not classified
	Aspiration Hazard:	Category – Classification not possible
	Aquatic Toxicity - Acute:	Category 2

Hazard Symbol/ Signal Word:

Warning

Harmful
Flammable liquid and vapor

Hazard Statement:
Maybe harmful if swallowed.
Maybe harmful in contact with skin.
Maybe harmful if inhaled.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
Toxic to aquatic life.

Precautionary Statement:

Prevention:

Contaminated work clothing should not be allowed out of the working place.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON CLOTHING: Take off contaminated clothing and wash before use.
Wear protective gloves/protective clothing/eye protection/face protection.
IF INHALED: Removed victim to fresh air and keep at rest in a position comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.
If eye irritation occurs: Get medical advice/attention.

SECTION 3: COMPOSITION/INFORMATION OF INGREDIENTS

List of Dangerous components

CAS Number	Chemical Identity	Concentration (%)
25036-25-3	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxiran)e] (DGEBPA-based polymer	<30.0
1330-20-7	Dimethyl Benzene	<30.0
100-41-4	Ethylbenzene	<4.0
64359-81-5	Dichloro-2-n-octyl-4-isothiazolin-3-one	<3.0
111-76-2	2-butoxy ethanol	<2.0
78-93-3	2-Butanone	<2.0

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.

SECTION 4: FIRST AID MEASURES

Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Ingestion: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

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SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 42^{0}C (107.6^{o}F). Closed cup
Extinguishing Media: Water spray, foam, dry chemical or carbon dioxide.
Special Fire fighting Procedure: Fire fighters should wear self-contained breathing apparatus.
Unusual Fire/Explosion Hazards: No applicable information found.
Hazardous thermal Decomposition Products: Carbon Dioxide, carbon monoxide, and oxides of nitrogen.
Unusual Fire and Explosion Hazards: Vapors from this product may travel or may be moved by air currents and ignited by pilot lights, switches, other flames or sources of heat, sparks, heaters, electrical equipment, static discharge or other ignition sources at locations distant from the product handling area.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Action to take for spills/ leaks: Soak up in absorbent material such as sand and collect in suitable container. Flush area with plenty of water. Wear adequate personal protective clothing and equipment. Keep out of irrigation ditches, sewers and water supplies.

Disposal Method: Do not dump into any sewers, on the ground or into any body of water. Dispose in an approved chemical waste landfill. Disposable method must be in compliance with all State/Provincial and local laws and regulations.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid use of electric band heaters. Application of direct flame to a container of this material can also cause explosion and/or fire.

Storage: Ensure adequate ventilation in storage area. Keep container closed when not in use. Do not store this material near flame, heat or strong oxidants.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with limit values that require monitoring at the workplace:
1330-20-7 Methyl Benzene

PEL (USA)	435 mg/m³, 100 ppm
REL (USA)	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV (USA)	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI
IOELV (EU)	Short-term value: 442 mg/m³, 100 ppm Long-term value: 221 mg/m³, 50 ppm Skin

Eye/Face Protection: Safety goggles/glasses suitable for use with chemicals.
Respiratory Protection: Always use appropriate Filter Mask/respirator (NIOSH/MSHA Approved).



Skin Protection: Nitrile/polyethylene gloves, coveralls, avoid cotton products. The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Ventilation: Good general or local exhaust ventilation is required for usage.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:	Fluid	**Vapor Pressure:**	Not determine
Color:	Red	**Vapor Density:**	Not available
Odor:	Characteristic	**Relative Density:**	1.16
Odor Threshold:	Not determined	**Solubility in Water:**	Not miscible or difficult to mix
Boiling Point:	Not determined	**Solvent Content:**	
Melting Point:	Not determined	*Organic Solvents:*	36.19%
Flash Point:	42 °C	*VOC (EC):*	34% (Gravimetric method)
Flammability:	50°C	**Partition Coefficient:**	Not available
Explosive Properties:	None	**Auto-ignition Temp.:**	Not available
Oxidizing Properties:	None	**Decomposition Temp.:**	Not available
Solids Content:	50% (by volume) 65% (by weight)	**Viscosity:**	65 KU
		Evaporation Rate:	Not available

SECTION 10: STABILITY AND REACTIVITY

Stability	Stable
Hazard Polymerization	Will not occur
Incompatibility	Polymerized by contact with amines, alkalis, water and alcohol
Hazardous Decomposition Products (non-thermal)	No applicable information found

SECTION 11: TOXICOLOGICAL INFORMATION

No study on the product itself.

Acute Toxicity:

Oral: LD50(rat) likely to be >3,000 mg/kg. Product is almost impossible to swallow due to polymerization in the mouth.

Dermal: LD50(rabbit) estimated to be >3,000 mg/kg. Rapid polymerization in contact with skin.

Corrosivity/Irritation:

Eyes: Causes severe irritation. Conjunctival irritation and temporary corneal injury is possible. Profuse eye watering and redness.

Skin: Irritation and redness at site of contact. Prolonged or repeated contact may lead to itching, soreness, Blistering, & dermatitis

Respiratory Tract: Causes irritation – also of mucous membranes, nose and throat. Very high concentration can cause nose bleeds.

Information on Dimethyl Benzene.

No adequate studies of reproduction and development toxicity in humans exposed to Dimethyl Benzene alone have been published. Placental transfer of this solvent has been shown in humans and in experimental animals. Teratogenicity studies in pregnant animals exposed to technical dimethyl benzene or dimethyl benzene isomers during organogenesis indicate that it may cause reduced fetal weight and delayed ossification, but not malformations, at dose levels causing no or only slight maternal toxicity. LOAEL values of 500-2175 mg/m3 (115-500 ppm) have been reported, depending on the length of the daily exposure periods (6-24 h/day). Signs of delayed ossification in the absence of lower fetal body weight have been reported at lower dose levels. However, these findings cannot be properly evaluated owing to incomplete description of the criteria for assessing ossification. A NOAEL for delayed fetal development cannot therefore be established.
In a study of postnatal development in rat offspring prenatally exposed to 870 or 2175 mg/m3 (200 or 500 ppm) technical Dimethyl Benzene, behavioural impairments indicating effects on the development of the central nervous system were detected. There was no maternal toxicity, and the effects at 2175 mg/m3 (500 ppm) were long-lasting as they were apparent in adult offspring. As 870 mg/m3 (200 ppm) was the lowest dose level investigated for this effect a NOAEL could not be established. [INCHEM]

Oral EndPoint:
Primary Organ: Neurotoxicity (nervous system)
The major target organ is the nervous system. At lower levels, around and somewhat above the TLV, reversible neurobehavioural effects are the first to be observed. These can be of concern as some, e.g. impaired balance and reaction time, may confer a greater risk of work-related injury [INCHEM]
Inhalation EndPoint:
Primary Organ:
.. Inhalation of xylenes at concn of 435-1300 mg/cu m for 15 min to 6 hr/day for 4 days results in CNS disturbances including changes in numerative ability, reaction time, short-term memory and electroencephalograph.
[USEPA; Advisory Opinion for Xylenes (Dimethyl benzenes) (Draft) p.6 (1981)]**PEER REVIEWED** [HSDB]

SECTION 12: ECOLOGICAL INFORMATION

Data from Dimethylbenzene
SPECIES: Oncorhynchus mykiss Rainbow trout, donaldson trout
TYPE OF EXPOSURE: Static
DURATION: 96 hr
ENDPOINT: LC50 (Mortality)
VALUE: 3300ug/l (= 3.3 mg/l)
REFERENCE SOURCE: Ref No: 6797. Mayer, F.L.J., and M.R. Ellersieck, Publication Year: 1986, Title: Manual of Acute Toxicity: Interpretation and Data Base for 410 Chemicals and 66 Species of Freshwater Animals. Resour.Publ.No.160, U.S.Dep.Interior, Fish Wildl.Serv., Washington, DC :505, [ECOTOX]

Bioccumulative: No
BCF: 21 [N-CLASS]
Rapidly Degradable: Yes
BIODEGREDATION: Readily degradable = Yes [N-CLASS] 9.1D (crustacean) SPECIES: Palaemonetes pugio (Crustacea)
TYPE OF EXPOSURE:
DURATION: 48 hr
ENDPOINT: LC50
VALUE: 8500ug/l (= 8.5mg/l)
REFERENCE SOURCE: TOTAL PARIS LA DEFENSE
(52). [IUCLID 2000]

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Bioccumulative: No
BCF: 21 [N-CLASS]
Rapidly Degradable: Yes
BIODEGREDATION: Readily degradable = Yes [N-CLASS] 9.1D (algal) SPECIES: Skeletonema costatum (Algae)
TYPE OF EXPOSURE:
DURATION: 72 hr
ENDPOINT: LC50
VALUE: 10000 µg/l (= 10mg/l)
REFERENCE SOURCE: TOTAL PARIS LA DEFENSE
(54). [IUCLID 2000]

Bioccumulative: No
BCF: 21 [N-CLASS]
Rapidly Degradable: Yes
BIODEGREDATION: Readily degradable = Yes [N-CLASS] 9.3C SPECIES: Mouse
ENDPOINT: LD50
VALUE: 1590 mg/kg
REFERENCE SOURCE: Hayes, W.J., Jr., E.R. Laws, Jr., (eds.). Handbook of Pesticide Toxicology. Volume 2. Classes of Pesticides. New York, NY: Academic Press, Inc., 1991. 643]**PEER REVIEWED [HSDB]

SECTION 13: DISPOSAL CONSIDERATIONS

Must not be disposed together with household garbage.
Do not discharge into drains or watercourses.

Polymerize adhesive by adding slowly to water. Hardened product can be disposed of in landfill sites by licensed contractors. Add water to contaminated packaging and then dispose of.

SECTION 14: TRANSPORTATION INFORMATION

IATA-DGR Flammable Liquid, UN 1263, Class 3, PG lll
IMDG Flammable Liquid, UN 1263, Class 3, PG lll

SECTION 15: REGULATORY INFORMATION

Chemical Inventory: All ingredients of this product are listed or exempted from the following inventories: EPA (USA), DSL (CANADA), CHRIP (JAPAN), AICS (AUSTRALIA), IECSC (CHINA), PICCS (PHIL), HSNO-CCID (NEW ZEALAND)

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SECTION 16: OTHER INFORMATION

The information contained in this MSDS is based on our present knowledge. It was obtained from a variety of sources and is believed to be accurate and current at the stated version date. This data is provided without warranty for the use of this information, application or processing described in this MSDS. Users should note the possibility of hazards occurring due to improper use of the product.

Department issuing MSDS: *Research and Development Department*
Contact: *Marketing Department*

ABBREVIATIONS AND ACRONYMS:
PICCS – PHILIPPINE INVENTORY OF CHEMICALS AND CHEMICAL SUBSTANCES
DSL – DOMESTIC SUBSTANCES LIST
ENCS – JAPANESE EXISTING AND NEW CHEMICALS SUBSTANCES
AICS – AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES
HSNO – HAZARDOUS SUBSTANCES AND NEW ORGANISMS
CCID – CHEMICAL CLASSIFICATION AND INFORMATION DATABASE
CHRIP – CHEMICAL RISK INFORMATION PLATFORM
IECSC – INVENTORY OF EXISTING CHEMICAL SUBSTANCES IN CHINA