MATERIAL SAFETY DATA SHEET

APCODUR EPOXY ZP PRIMER REDOXIDE

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

Identification of the substance or preparation

Product name	:	APCODUR EPOXY ZP PRIMER REDOXIDE
Product code	:	BL-0492
Chemical name	:	Not available.
Synonyms	:	Not available.
Chemical formula	:	Not applicable.
CAS number	:	Not applicable.
Use of the substance/preparation	:	Painting/Coating

Company/undertaking identification

Manufacturer	:	Asian Paints Bangladesh Ltd. Plot No- 317& 757 Bahadurpur, Gazipur, Bangladesh, Tel No. +88029204482/83
Supplier	:	Asian Paints Bangladesh Ltd. Plot No.-317& 757. Bahadurpur, Gazipur Bangladesh, Tel No. +88029204482/83
e-mail address of person responsible for this SDS	:	
Emergency telephone number (with hours of operation)	:	+091 22 39814000

2. HAZARDS IDENTIFICATION

Classification	:	Toxic
Risk phrases	:	R10- Flammable. R45- May cause cancer. R23/24/25- Also toxic by inhalation, in contact with skin and if swallowed. R41- Risk of serious damage to eyes. R38- Irritating to skin. R43- May cause sensitization by skin contact. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Physical/chemical hazards	:	Flammable.
Human health hazards	:	May cause cancer. Also toxic by inhalation, in contact with skin and if swallowed. Risk of serious damage to eyes. Irritating to skin. May cause sensitization by skin contact.
Environmental hazards	:	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See section 11 for more detailed information on health effects and symptoms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%
Diiron trioxide	1309-37-1	15 - 30
Quartz (SiO2)	14808-60-7	15 - 30
Talc (Mg3H2(SiO3)4)	14807-96-6	5 - 15
xylene	1330-20-7	5 - 15
solvent naphtha (petroleum), light arom.	64742-95-6	5 - 15
o-xylene	95-47-6	5 - 15
Epoxy Polyamide Adduct		1 - 5
butan-1-ol	71-36-3	1 - 5
4-hydroxy-4-methylpentan-2-one	123-42-2	1 - 5
Epoxy Resin		1 - 5
bisphenol A	80-05-7	1 - 5
Paraffin waxes and Hydrocarbon waxes, chloro	63449-39-8	1 - 5
epichlorhydrin	106-89-8	1 - 5
trizinc bis(orthophosphate)	7779-90-0	0 - 1
sodium hydroxide	1310-73-2	0 - 1

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

Inhalation : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. 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. 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.

Skin contact : Get medical attention immediately. Flush contaminated skin with plenty of 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. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Get medical attention immediately. 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.

See section 11 for more detailed information on health effects and symptoms.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable : Recommended: alcohol-resistant foam, CO_2, powders, water spray.

Not suitable : Do not use water jet.

5. FIRE-FIGHTING MEASURES

Special exposure hazards : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

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. This material is harmful to aquatic organisms. 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:
carbon dioxide
carbon monoxide
phosphorus oxides
halogenated compounds
carbonyl halides
metal oxide/oxides

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 : 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 (see section 8).

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. May be harmful to the environment if released in large quantities.

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. 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). Use spark-proof tools and explosion-proof equipment. 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

Handling : Put on appropriate personal protective equipment (see section 8). 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. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. 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 non-sparking tools. Take precautionary

7. HANDLING AND STORAGE

measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : 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 well-ventilated area, away from incompatible materials (see section 10) and food and drink. 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

Ingredient name	Occupational exposure limits
Diiron trioxide	**ACGIH TLV (United States, 1/2007).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction
Quartz (SiO2)	**ACGIH TLV (United States, 1/2007).** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction
Talc (Mg3H2(SiO3)4)	**ACGIH TLV (United States, 1/2007).** TWA: 0.1 f/cc 8 hour(s).
xylene	**EU OEL (Europe, 5/2006). Absorbed through skin. Notes: Indicative** limit value 8 hours: 50 ppm 8 hour(s). limit value 8 hours: 221 mg/m³ 8 hour(s). limit value short term: 100 ppm 15 minute(s). limit value short term: 442 mg/m³ 15 minute(s).
o-xylene	**EU OEL (Europe, 5/2006). Absorbed through skin. Notes: Indicative** limit value 8 hours: 50 ppm 8 hour(s). limit value 8 hours: 221 mg/m³ 8 hour(s). limit value short term: 100 ppm 15 minute(s). limit value short term: 442 mg/m³ 15 minute(s).
butan-1-ol	**ACGIH TLV (United States, 1/2007).** TWA: 20 ppm 8 hour(s).
4-hydroxy-4-methylpentan-2-one	**ACGIH TLV (United States, 1/2007).** TWA: 50 ppm 8 hour(s). TWA: 238 mg/m³ 8 hour(s).
epichlorhydrin	**ACGIH TLV (United States, 1/2007). Absorbed through skin.** TWA: 0.5 ppm 8 hour(s). TWA: 1.9 mg/m³ 8 hour(s).
sodium hydroxide	**ACGIH TLV (United States, 1/2007).** C: 2 mg/m³
Diiron trioxide	**ACGIH TLV (United States, 1/2007).** TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 mg/m³ 8 hour(s). Form: Total dust TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction **OSHA PEL (United States, 11/2006).** TWA: 10 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989). Notes: as Fe** STEL: 10 ppm, (as Fe) 15 minute(s). Form: Total particulates **NIOSH REL (United States, 12/2001). Notes: as Fe** TWA: 5 mg/m³, (as Fe) 10 hour(s). Form: Dust and fumes
Quartz (SiO2)	**OSHA PEL Z3 (United States, 9/2005).** TWA: 250 mppcf 8 hour(s). Form: Respirable TWA: 10 mg/m³ 8 hour(s). Form: Respirable TWA: 30 mg/m³ 8 hour(s). Form: Total dust. **ACGIH TLV (United States, 1/2007).** TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction **NIOSH REL (United States, 12/2001).** TWA: 0.05 mg/m³ 10 hour(s).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA PEL 1989 (United States, 3/1989). Notes: as quartz TWA: 0.1 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust
Talc (Mg3H2(SiO3)4)	**OSHA PEL 1989 (United States, 3/1989).** TWA: 2 mg/m³ 8 hour(s). Form: Respirable dust **NIOSH REL (United States, 12/2001).** TWA: 2 mg/m³ 10 hour(s). Form: Respirable fraction **ACGIH TLV (United States, 1/2007).** TWA: 0.1 f/cc 8 hour(s). **OSHA PEL Z3 (United States, 9/2005).** TWA: 20 mppcf 8 hour(s). Form: not containing asbestos STEL: 1 f/cc 30 minute(s). Form: not containing asbestos
Xylene	**ACGIH TLV (United States, 1/2007).** TWA: 100 ppm 8 hour(s). TWA: 434 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 651 mg/m³ 15 minute(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 655 mg/m³ 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s).
Ortho xylene	**ACGIH TLV (United States, 1/2007).** TWA: 100 ppm 8 hour(s). TWA: 434 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 651 mg/m³ 15 minute(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 655 mg/m³ 15 minute(s). **NIOSH REL (United States, 12/2001).** TWA: 100 ppm 10 hour(s). TWA: 435 mg/m³ 10 hour(s). STEL: 150 ppm 15 minute(s). STEL: 655 mg/m³ 15 minute(s). **OSHA PEL (United States, 11/2006).** TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s).
Butan-1-ol	**ACGIH TLV (United States, 1/2007).** TWA: 20 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **NIOSH REL (United States, 12/2001). Absorbed through skin.** CEIL: 50 ppm CEIL: 150 mg/m³ **OSHA PEL (United States, 11/2006).** TWA: 100 ppm 8 hour(s). TWA: 300 mg/m³ 8 hour(s).
4-hydroxy-4-methylpentan-2-one	**ACGIH TLV (United States, 1/2007).** TWA: 50 ppm 8 hour(s). TWA: 238 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 50 ppm 8 hour(s). TWA: 240 mg/m³ 8 hour(s). **NIOSH REL (United States, 12/2001).** TWA: 50 ppm 10 hour(s). TWA: 240 mg/m³ 10 hour(s). **OSHA PEL (United States, 11/2006).** TWA: 50 ppm 8 hour(s). TWA: 240 mg/m³ 8 hour(s).
epichlorhydrin	**ACGIH TLV (United States, 1/2007). Absorbed through skin.**

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TWA: 0.5 ppm 8 hour(s).
TWA: 1.9 mg/m³ 8 hour(s).
OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.
TWA: 2 ppm 8 hour(s).
TWA: 8 mg/m³ 8 hour(s).
OSHA PEL (United States, 11/2006). Absorbed through skin.
TWA: 5 ppm 8 hour(s).
TWA: 19 mg/m³ 8 hour(s).

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure 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, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : Liquid.
Odor : Not available.
Odor threshold : 0.05 ppm
pH : Not applicable.
Boiling point : Not available.
Melting point : Not available.
Flash point : Closed cup: >28°C (>82.4°F) [Abel's close cup]
Explosion limits : Lower: 1%
Upper: 15.6%
Vapor pressure : 0.93 kPa (7 mm Hg)
Relative density : 1.43
Solubility : Not available.

Vapor density : 4 [Air = 1]
Evaporation rate : <1 (Butyl Acetate = 1)

9. PHYSICAL AND CHEMICAL PROPERTIES

Auto-ignition temperature : 235°C (455°F)

Density : 1.43 g/cm^3 [30°C (86°F)]

Flammability : Not available.

10. STABILITY AND REACTIVITY

Chemical stability : The product is stable.

Possibility of hazardous reactions : 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 pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use.

Materials to avoid : No known incompatibility

11. TOXICOLOGICAL INFORMATION

Potential acute health effects

Inhalation : Toxic by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Toxic if swallowed. Irritating to mouth, throat and stomach.

Skin contact : Toxic in contact with skin. Irritating to skin. May cause sensitization by skin contact.

Eye contact : Severely irritating to eyes. Risk of serious damage to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Quartz (SiO2)	LDLo Intratracheal	Rat	250 mg/kg	-
	LDLo Intratracheal	Rat	200 mg/kg	-
	LDLo Intravenous	Rat	90 mg/kg	-
	TDLo Intratracheal	Rat	50 mg/kg	-
	TDLo Intratracheal	Rat	30 mg/kg	-
	TDLo Intratracheal	Rat	25 mg/kg	-
	TDLo Intratracheal	Rat	15.69 mg/kg	-
	TDLo Intratracheal	Rat	10 mg/kg	-
	TDLo Intratracheal	Rat	5 mg/kg	-
	TDLo Intratracheal	Rat	1.5 mg/kg	-
	TDLo Intratracheal	Rat	1 mg/kg	-
	TDLo Intratracheal	Rat	1250 ug/kg	-
	TDLo Intratracheal	Rat	150 mg/kg	-
	TDLo Intratracheal	Rat	100 mg/kg	-
	TDLo Oral	Rat	120 g/kg	-
xylene	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Intraperitoneal	Rat	2459 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Subcutaneous	Rat	1700 mg/kg	-
solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	8400 mg/kg	-
o-xylene	LD50 Oral	Rat	3567 mg/kg	-
	LDLo Oral	Rat	5 g/kg	-
butan-1-ol	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50	Rat	200 mg/kg	-

11. TOXICOLOGICAL INFORMATION

	LD50 Intraperitoneal	Rat	200 mg/kg	-
	LD50 Intravenous	Rat	310 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
	TDLo Intraperitoneal	Rat	400 mg/kg	-
4-hydroxy-4-methylpentan-2-one	LD50 Dermal	Rabbit	13500 mg/kg	-
	LD50 Oral	Rat	2520 mg/kg	-
	LD50 Oral	Rat	4000 mg/kg	-
	LDLo Intravenous	Rat	3024 mg/kg	-
bisphenol A	LD50 Intraperitoneal	Rat	200 mg/kg	-
	LD50 Oral	Rat	1200 mg/kg	-
	LD50 Oral	Rat	3250 mg/kg	-
	LD50 Oral	Rat	4240 mg/kg	-
	LD50 Dermal	Rabbit	3 mL/kg	-
	LDLo Oral	Rat	2500 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
	TDLo Intraperitoneal	Rat	150 mg/kg	-
	TDLo Intraperitoneal	Rat	37.5 mg/kg	-
	TDLo Subcutaneous	Rat	5.9 mg/kg	-
Paraffin waxes and Hydrocarbon waxes, chloro	LD50 Dermal	Rabbit	>10 mL/kg	-
	LD50 Oral	Rat	26100 mg/kg	-
	LD50 Oral	Rat	>21500 uL/kg	-
epichlorhydrin	LD50 Dermal	Rabbit	515 mg/kg	-
	LD50 Intraperitoneal	Rat	113 mg/kg	-
	LD50 Intravenous	Rat	154 mg/kg	-
	LD50 Oral	Rat	90 mg/kg	-
	LD50 Subcutaneous	Rat	150 mg/kg	-
	LDLo Dermal	Rat	1 g/kg	-
trizinc bis(orthophosphate)	LD50 Intraperitoneal	Rat	551 mg/kg	-
	TDLo Intratracheal	Rat	250 mg/kg	-

Potential chronic health effects

Product name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
solvent naphtha (petroleum), light arom.	Carc. Cat. 2; R45	-	-	-
bisphenol A	-	-	-	Repr. Cat. 3; R62
epichlorhydrin	Carc. Cat. 2; R45	-	-	-

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

Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.

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.

Denmark – Carcinogen list : Contains a substance or substances listed under National Working Environment Authorities Executive Order 908/2005.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

11. TOXICOLOGICAL INFORMATION

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

12. ECOLOGICAL INFORMATION

Ecotoxicity : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Water polluting material. May be harmful to the environment if released in large quantities.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
xylene	-	Acute LC50 8.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 13500 to 15034 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 13500 to 19200 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours
	-	Acute LC50 13400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 18.4 mm - 0.077 g	96 hours
	-	Acute LC50 13300 to 16114 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 12000 to 16114 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 12000 to 13762 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 8600 to 9591 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 8500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 8200 to 10032 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
	-	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours

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	-	Acute LC50 13500 to 16100 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
o-xylene	-	Acute EC50 12700 to 17100 ug/L Fresh water	Crustaceans - Brine shrimp - Artemia sp. - Nauplii	48 hours
	-	Acute EC50 10700 to 15100 ug/L Fresh water	Crustaceans - Brine shrimp - Artemia sp. - Nauplii	48 hours
	-	Acute EC50 3820 to 5590 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - 0 to 24 hours	48 hours
	-	Acute EC50 1870 to 2510 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute EC50 <1390 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute EC50 1390 to 2510 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 16100 to 22400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 0.3 g	96 hours
	-	Acute LC50 15700 to 20300 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 39.8 mg/L Fresh water	Fish - Tilapia - Tilapia zillii	96 hours
	-	Acute LC50 12000 ug/L Fresh water	Fish - Guppy - Poecilia reticulata	96 hours
	-	Acute LC50 27100 to 48300 ug/L Fresh water	Crustaceans - Brine shrimp - Artemia sp. - Nauplii	48 hours
	-	Acute LC50 8050 to 11600 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 13.1 g	96 hours
	-	Acute LC50 7600 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 22400 to 31100 ug/L Fresh water	Crustaceans - Brine shrimp - Artemia sp. - Nauplii	48 hours
	-	Acute LC50 19600 to 33900 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 17200 to 25000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 16400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 32 days - 20.8 mm - 0.114 g	96 hours

12. ECOLOGICAL INFORMATION

	-	Acute LC50 38000 ug/L Marine water	Crustaceans - Dungeness or edible crab - Cancer magister - Zoea	48 hours
	-	Acute LC50 11 to 12 ul/L Marine water	Fish - Striped bass - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 6 g	96 hours
butan-1-ol	-	Acute EC50 1983000 to 2072000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - 6 to 24 hours	48 hours
	-	Acute LC50 2250000 to 2400000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 cm	96 hours
	-	Acute LC50 100 to 500 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.1 g	96 hours
	-	Acute LC50 1940000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 4 to 8 weeks - 1.1 to 3.1 cm	96 hours
	-	Acute LC50 1910000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 4 to 8 weeks - 1.1 to 3.1 cm	96 hours
	-	Acute LC50 1730000 to 1840000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 33 days - 20.6 mm - 0.119 g	96 hours
	-	Acute LC50 2300000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 to 10 cm	96 hours
4-hydroxy-4-methylpentan-2-one	-	Acute LC50 420000 ug/L Marine water	Fish - Inland silverside - Menidia beryllina - 40 to 100 mm	96 hours
bisphenol A	-	Acute EC50 10200 to 11400 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 9400 to 11000 ug/L Marine water	Fish - Atlantic silverside - Menidia menidia	96 hours
	-	Acute LC50 4700 to 5500 ug/L	Fish - Fathead minnow -	96 hours

12. ECOLOGICAL INFORMATION

		Fresh water	Pimephales promelas	
	-	Acute LC50 4600 to 5400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	-	Acute LC50 1600 to 1900 ug/L Marine water	Crustaceans - Opossum shrimp - Americamysis bahia	48 hours
	-	Acute LC50 4.2 to 5.3 mg/L Marine water	Crustaceans - Calanoid copepod - Acartia tonsa - Adult - 10 to 12 days	48 hours
Paraffin waxes and Hydrocarbon waxes, chloro	-	Acute LC50 >300 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.8 g	96 hours
	-	Acute LC50 >100 mg/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 0.8 g	96 hours
	-	Acute LC50 >0.1 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1 g	96 hours
	-	Acute LC50 0.06 to 0.08 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Yolk-sac fry	96 hours
	-	Acute LC50 >10.9 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1 g	96 hours
epichlorhydrin	-	Acute LC50 23.9 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 30500 ug/L	Fish - Zebra danio - Danio rerio	96 hours
	-	Acute LC50 28900 to 32900 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 22600 to 25400 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 21000 to 22800 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate	48 hours
	-	Acute LC50 18000 ug/L Marine water	Fish - Inland silverside - Menidia beryllina - 40 to 100 mm	96 hours
	-	Acute LC50 13200 to 18600 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Sub-adult - 65 to 94 days - 28 mm - 391 mg	96 hours
	-	Acute LC50 12700 to 14200	Fish - Fathead minnow -	96 hours

12. ECOLOGICAL INFORMATION

		ug/L Fresh water	Pimephales promelas - FRY - 10 to 15 days - 9.5 mm - 11.6 mg	
	-	Acute LC50 10600 to 12300 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	96 hours
	-	Acute LC50 35000 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 33 to 75 mm	96 hours
trizinc bis(orthophosphate)	-	Acute LC50 90 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 180 days - 1.5 g	96 hours
sodium hydroxide	-	Acute EC50 40.38 to 47.13 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 33000 to 100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	-	Acute LC50 125000 ug/L Fresh water	Fish - Western mosquitofish - Gambusia affinis - Adult	96 hours

Conclusion/Summary : Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Paraffin waxes and Hydrocarbon waxes, chloro		-	-

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

13. DISPOSAL CONSIDERATIONS

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

International transport regulations

14. TRANSPORT INFORMATION

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	1263	UN1263 - Paint, Paint related Material, Flammable	3	III		-
ADNR Class	1263	UN1263 - Paint, Paint related Material, Flammable	3	III		-
IMDG Class	1263	UN1263 - Paint, Paint related Material, Flammable. Marine pollutant (Paraffin waxes and Hydrocarbon waxes, chloro, epichlorhydrin)	3	III		Marine pollutant
IATA Class	1263	UN1263 - Paint, Paint related Material, Flammable	3	III		-

PG* : Packing group

15. REGULATORY INFORMATION

Hazard symbol or symbols :

Toxic

Risk phrases : R10- Flammable.
R45- May cause cancer.
R23/24/25- Also toxic by inhalation, in contact with skin and if swallowed.
R41- Risk of serious damage to eyes.
R38- Irritating to skin.
R43- May cause sensitization by skin contact.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S53- Avoid exposure - obtain special instructions before use.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains : solvent naphtha (petroleum), light arom.
bisphenol A
epichlorhydrin

Product use : Industrial applications.

16. OTHER INFORMATION

National Fire Protection Association (U.S.A.) :

History

16. OTHER INFORMATION

Date of printing : 14/07/2010.

Date of issue/ Date of revision : 14/07/2010.

Date of previous issue : No previous validation.

Version : 1

Indicates information that has changed from previously issued version.

Disclaimer

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