

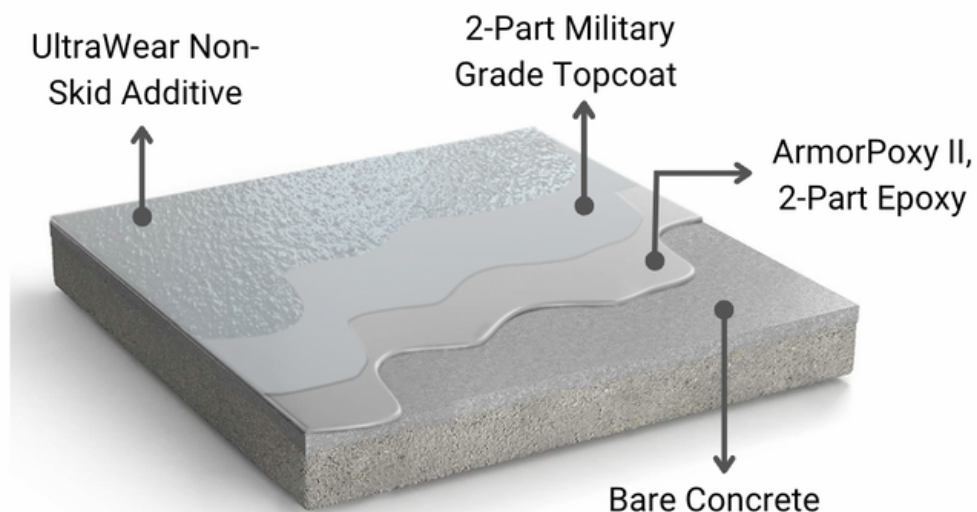
SDS

ArmorPoxy II: Low VOC 2-Layer Epoxy System



SDS Information

- **ArmorPoxy II 2-Part Epoxy Low VOC**
- **ArmorPoxy II 2-Part Military Grade Topcoat Low VOC**



www.armorpoxy.com

**1260 North Ave
Plainfield, NJ 07062**

SAFETY DATA SHEET

PRODUCT CODE: 015x

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM015x PART A
PRODUCT CODES: 015x A

MANUFACTURER: Armorpoxy Inc.
STREET ADDRESS: 1260 North Avenue
CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: (888) 755-7361
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy

DATE REVISED: 6/16/16

Chemical Name or Class: Amine mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Skin corrosion/irritation category 2, Serious eye irritation category 1, Specific target organ toxicity – single exposure category 3 Acute hazard to aquatic environment category 3

GHS Label Elements and Precautionary Statements:

Label Elements: Corrosion, Exclamation Mark



Hazard Statements:

Warning: Causes skin irritation

Danger: Causes serious eye damage

Warning: May cause drowsiness or dizziness

Harmful to aquatic life

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray P271 Use only outdoors or in a well-ventilated area.

Response:

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 take off contaminated clothing and wash it before reuse

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 If in eyes, immediately call a POISON CENTER or doctor/physician.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

P405 Store locked up.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

Other Non-classifiable potential hazards

Carcinogen category 1 and 2

HMIS HAZARD CLASSIFICATION

HEALTH: 2

FLAMMIBILITY: 1

REACTIVITY: 0

PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS

EYES:

THIS MATERIAL CAN CAUSE EYE IRRITATION OR REDNESS. HIGH VAPOR CONCENTRATIONS CAN CAUSE SEVERE IRRITATION TO THE EYES.

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SKIN:

IRRITATION TO THE SKIN CAN OCCUR BUT DERMAL TOXICITY IS LOW.

INGESTION:

INGESTION OF MATERIAL CAN CAUSE NAUSEA OR OTHER SIMILAR RESPONSES.

INHALATION:

HIGH CONCENTRATIONS OF VAPOR CAN CAUSE IRRITATION TO THE RESPIRATORY TRACT, NAUSEA, AND DIZZINESS.

HEALTH HAZARDS (ACUTE AND CHRONIC):

PROLONGED OR REPEATED EXPOSURE MAY CAUSE ASTHMA AND SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY CONDITIONS OR OTHER ALLERGIC AILMENTS

CARCINOGENICITY

OSHA: NO

NTP: yes

IARC: yes

ADDITIONAL CARCINOGENICITY INFORMATION:

Some colors may contain carbon black - Explanation Of Carcinogenicity: IARC MONOGRAPHS ON EVALUATION OF CARCINOGENIC RISK OF CHEMICALS TO MAN, VOL 65, PG 149, 1996: GROUP 2B. IARC has determined that crystalline silica inhaled in the form of quartz is carcinogenic to humans (Group 1- carcinogenic to humans). The NTP classifies respirable crystalline silica as reasonably anticipated to be a carcinogen. Titanium Dioxide is listed by IARC as possibly carcinogenic to humans (group 2B). Component Acetic Acid: Chronic effects on humans – Mutagenetic for mammalian somatic cells. Mutagenic for bacteria and yeast. Component CAS# 107-98-2: Has been reported to be toxic to fetus in laboratory animals. Component CAS# 8052-41-3: Epidemiology: Studies involving petroleum refinery workers indicate that persons with routine exposure to petroleum based constituents may be at an increased risk to the development of benign neoplasms, digestive tract cancer and skin cancer.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
1,2 ETHANE DIAMINE, N-(2-AMINO ETHYL)	111-40-0	1 ppm	1 ppm	NONE	<1.0
TETRAETHYLENE PENTAMINE	112-57-2	NONE	NONE	NONE	<1.0
ETHYLENEDIAMINE	107-15-3	10 ppm	10 ppm	10 ppm	<1.0
PENTAETHYLENE HEXAMINE	4067-16-7	NONE	NONE	NONE	<1.0
Polymer of polymerized linseed oil, pentaethylene hexamine, DGEBA-epichlorohydrin copoly, form, DETA and PGE					
	CAS# not available	NONE	NONE	NONE	10-30
WATER	7732-18-5	NONE	NONE	NONE	30-60
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	100 ppm	100 ppm	150 ppm	10-30
GLACIAL ACITIC ACID	64-19-7	10 ppm	10 ppm	15 ppm	0.1-1
STODDARD SOLVENT	8052-41-3	100ppm	100 ppm	NONE	0.1-1
2-ETHYL-1-HEXANOL	104-76-7	NONE	NONE	NONE	0.1-1
*GLYCOL ETHER 2-BUTOXYETHANOL	111-76-2	25 ppm	25 ppm	NONE	0.1-1
PROPRIETARY ADDITIVE–	NJTSRN 80963-5170	NONE	NONE	NONE	0.1-1
Mica	12001-26-2	20mppcf	3mg/m3	NONE	1-5
Triethanolamine	102-71-6	NONE	5mg/m3	NONE	0.1-1

Colors may contain the following @ 10-30%:

*ETHYLENE GLYCOL	107-21-1	50PPM	50PPM	50PPM	0.1-1
Aqueous colorant additive	NJTSRN 56705700001-5043P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5032P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5756P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5024P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5023P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5727P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5749P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5579P	NONE	NONE	NONE	
Diethylene Glycol	111-46-6	10mg/m3	10mg/m3	NONE	0.1-1
Talc	14807-96-6	20mg/m3	20mg/m3	20mg/m3	0.1-1
*crystalline silica (as a component of talc)	14808-60-7	0.05 mg/m3	0.025 mg/m3	0.05 mg/m3	0.1-1
Chlorite	71949-90-1	NONE	NONE	NONE	
*Chromium III oxide (green may contain up to 5%)	1308-38-8	0.5 mg/m3	0.5 mg/m3	NONE	0.1-1
Propylene glycol	57-55-6	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-6584P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5030P	NONE	NONE	NONE	
Iron oxide	1332-37-2	5mg/m3	15mg/m3	NONE	
Petroleum distillates	64741-88-4	400ppm	400ppm	10mg/m3	
Petroleum distillates	64741-89-5	5mg/m3	5mg/m3	10mg/m3	
C.I. Pigment Yellow	51274-00-1	NONE	NONE	NONE	
Iron hydroxide oxide	20344-49-4	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5747P	NONE	NONE	NONE	

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isopropanol	67-63-0	400ppm	400ppm		
Barium Sulfate	7727-43-7	5mg/m3	10mg/m3	NONE	
Tributyl Phosphate	126-73-8	5mg/m3	2.5mg/3	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5704P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5071P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-5756P	NONE	NONE	NONE	
Chlorite	71949-90-1	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-6031P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-6861P	NONE	NONE	NONE	
Aqueous colorant additive	NJTSRN 56705700001-6584P	NONE	NONE	NONE	
*CARBON	1333-86-4	3.5PPM	3.4PPM	NONE	0.1-1
Kaolin	1332-58-7	15mg/m3	2mg/m3	NONE	
Titanium Dioxide	13463-67-7	10mg/m3	10mg/m3	5mg/m3	

SECTION 2 NOTES: *Indicates toxic chemical(s) subject to reporting requirements of section 313 of Title III and of 40 CFR 372.

PROPYLENE GLYCOL MONOMETHYL ETHER CAS #107-98-2 (ACGIH) STEL= 150 PPM.

FOLLOW 311B (2) (A) 40 CRF 116, 117, GUIDELINES. FOLLOW TSCA 8 (A) 40 CFR 712, 47 FR 26992 GUIDELINES

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

EYES:

IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE LIFTING UPPER AND LOWER LIDS. GET IMMEDIATE MEDICAL ASSISTANCE.

SKIN:

FLUSH SKIN WITH WATER FOR AT LEAST 15 MINUTES AND REMOVE ALL CONTAMINATED CLOTHING IMMEDIATELY. GET MEDICAL ATTENTION IF REDDENING OR SWELLING OCCURS.

INGESTION:

DO NOT INDUCE VOMITING. DILUTE BY GIVING WATER OR MILK TO DRINK IF VICTIM IS CONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

REMOVE TO FRESH AIR IF EFFECTS PERSIST AND ADMINISTER OXYGEN IF NECESSARY.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/A
(% by volume) LOWER: N/A

FLASH POINT: 200 +F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, WATER FOG

SPECIAL FIRE FIGHTING PROCEDURES:

TOXIC FUMES WILL BE EVOLVED WHEN THIS MATERIAL IS INVOLVED IN A FIRE. A SELF-CONTAINED BREATHING APPARATUS SHOULD BE AVAILABLE FOR FIRE FIGHTERS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE KNOWN

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

AVOID CONTACT WITH MATERIAL. WEAR THE APPROPRIATE SAFETY EQUIPMENT. STOP SPILL AT SOURCE, DYKE AREA TO PREVENT SPREADING. PUMP LIQUID TO SALVAGE TANK. TAKE UP REMAINDER WITH CLAY OR OTHER ABSORBANT AND PLACE IN DISPOSAL CONTAINERS.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS. RESEAL PARTIALLY USED CONTAINERS. PROPERLY LABEL ALL CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. OBSERVE CONDITIONS OF GOOD INDUSTRIAL HYGIENE AND SAFE WORKING PRACTICES.

OTHER PRECAUTIONS:

MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS OF ALL COMPONENTS TO BECOME FAMILIAR WITH ALL HAZARDS PRIOR TO USING THIS PRODUCT.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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RESPIRATORY PROTECTION:

NIOSH APPROVED RESPIRATOR PROTECTION REQUIRED IN THE ABSENCE OF PROPER ENVIRONMENTAL CONTROLS.

VENTILATION :

AVOID BREATHING VAPORS, VENTILATION MUST BE SUFFICIENT TO CONTROL VAPORS.

PROTECTIVE GLOVES:

IMPERVIOUS GLOVES, NEOPRENE OR RUBBER.

EYE PROTECTION:

SPLASH PROOF GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

CLEAN BODY COVERING CLOTHING AS WELL AS APRON FOOTWEAR OR OTHER EQUIPMENT SHOULD BE USED AS DEEMED NECESSARY TO AVOID CONTACT WITH THE MATERIAL.

WORK HYGIENIC PRACTICES:

OBSERVE GENERAL GOOD HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCPATONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: LOW VISCOSITY LIQUID IN VARYING COLORS

BOILING POINT OR RANGE ° F: 212

VAPOR DENSITY (AIR = 1): N/A

SPECIFIC GRAVITY (H2O = 1): 1.2

EVAPORATION RATE: N/A

SOLUBILITY IN WATER: EMULSIFIABLE

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

STABLE

CONDITIONS TO AVOID (STABILITY):

AVOID CONTACT WITH OPEN FLAMES AND ALL SOURCES OF IGNITIONS AND SPARKS.

INCOMPATIBILITY (MATERIAL TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS, MINERAL ACIDS AND EPOXY RESINS IN UNCONTROLLED AMOUNTS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

CO, CO2, NOX

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 111-40-0: inhalation: LC50 (4hr) <0.3 mg/l (rat); Skin: LD50 >5000 mg/kg(rabbit) Ingestion: LD50 2960 mg/kg (rat).

Severe Eye irritation, Moderate skin irritation, May cause sensitization by skin contact.

Component Acetic Acid: Absorbed through the skin. Estimated 4 hr exposure Oral LD50 3310 mg/kg (rat), Estimated Dermal LD50 1060 mg/kg (rabbit), Vapor LC50 5620 mouse).Chronic effects on humans – Mutagenetic for mammalian somatic cells. Mutagenic for bacteria and yeast. May cause damage to kidneys, mucous membranes, skin, teeth. Corrosive by inhalation or skin contact, corrosive to eyes.

Component CAS# 107-98-2: Ingestion LD50 rat 4016 mg/kg, Dermal LD50 rabbit >2000 mg/kg, Inhalation LC50 6 hr Vapor, rat >25.8 mg/l. May cause eye or skin irritation. May effect Kidney or liver. Has been reported to be toxic to fetus in laboratory animals.

Component CAS# 8052-41-3: Draize test (rabbit) eye: 500 mg/24hr – Moderate. Epidemiology: Studies involving petroleum refinery workers indicate that persons with routine exposure to petroleum based constituents may be at an increased risk to the development of benign neoplasms, digestive tract cancer and skin cancer.

Component Silicon dioxide: Inhalation and retention of respirable crystalline silica can cause silicosis in several forms, chronic, accelerated or acute. Acute silicosis can occur with exposures to high concentrations of respirable crystalline silica over a very short time period, the symptoms of acute silicosis include progressive shortness of breath, fever, cough, and weight loss. Acute silicosis can be fatal. IARC concluded that there was sufficient evidence in humans for the carcinogenicity of crystalline silica in the form of quartz (Group 1). Exposure to respirable crystalline silica can also be associated with autoimmune disease, tuberculosis, kidney damage, non-malignant respiratory disease.

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For further information, the NIOSH Hazard Review- Occupational Effects of Occupational Exposure to Respirable Crystalline Silica published in April of 2002 should be reviewed.

Component Ethylene Glycol CAS# 107-21-1: The human oral lethal dose is approximately 1.6 g/kg. Ethylene glycol may aggravate existing kidney disease or cause sensitization. LD50 oral (rat) = 4000 mg/kg.

Component C.I. Pigment yellow CAS# 51274-00-1: LD50 Oral (rat) >5000 mg/kg. LD50 Dermal (rabbit) = 10500 mg/kg. Ethylene glycol has been shown to cause dose related teratogenic effects in rats and mice when given by gavage at high concentrations.

Component talc CAS# 14807-96-6: Carcinogenic effects – this component may contain crystalline silica dust can cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group I carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline Silica is also listed by the NTP as a known human carcinogen.

Component diethylene Glycol CAS# 111-46-6: Estimated human oral lethal dose is 1.0 to 1.2 g/kg. LD50 Oral (rat) = 20760 mg/kg. LD50 Dermal (rabbit) = 13300 mg/kg. Diethylene glycol vapors have caused central nervous system effects in mice and rats, but no such effects have been documented in humans.

Component NJTSRN 56705700001-5043P: LD50 oral (rat) = 3000 mg/kg. Acute dermal LD50 (rabbit) = 4400 mg/kg

Component Chromium III oxide CAS# 1308-38-8: LD50 Oral (rat) >5000 mg/kg.

Component Propylene glycol CAS# 57-55-6: LD50 oral (rat) >2000 mg/kg. Acute Dermal LD50 (rabbit) >10000 mg/kg

Component NJTSRN 56705700001-6584P: LD50 oral (rat) = 1300 mg/kg

Component NJTSRN 56705700001-5024P: LD50 Oral (rat) = 1900 mg/kg. Dermal LD50 (rat) = 1110 mg/kg.

Component NJTSRN 56705700001-5023: LD50 Oral (rat) = 1900 mg/kg. Dermal LD50 (rabbit) >10000 mg/kg

Component NJTSRN 56705700001-5030P: .No data

Component Petroleum distillates CAS# 64741-88-4: no data

Component Petroleum distillates CAS# 64741-89-5: no data

Component NJTSRN 56705700001-5747: LD50 Oral (rat) = 2000 mg/kg.

Component NJTSRN 56705700001-5704: .No data

Component NJTSRN 56705700001-5071P: .No data

Component NJTSRN 56705700001-6031P: .No data

Component NJTSRN 56705700001-6861P: LD50 Oral (rat) = 1836 mg/kg. moderate skin irritation.

Component Titanium Dioxide: Inhalation 4 h LC50 > 6.82 mg/l; Oral LD50 > 5000 mg/kg, rat; In February 2006, IARC listed titanium dioxide as possibly carcinogenic to humans Group 2B.

Component Carbon: IARC lists carbon as a possible human carcinogen Category 2B. LD50 – Intravenous, mouse = 440 mg/kg. Contains Proposition 65 Chemicals. Carbon is listed on TSCA and DSL Canada

Component CAS# 112-57-2: Toxicological Data on Ingredients: Tetraethylenepentamine: ORAL (LD50): Acute: 3990 mg/kg [Rat]. DERMAL (LD50): Acute: 0.66 mg/kg [Rabbit]. Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, sensitizer, permeator), of eye contact (corrosive), of inhalation (lung corrosive).

Component Triethanolamine CAS# 102-71-6: LD50 Dermal (rat) = 2000 mg/kg. LD50 Oral (rabbit) >2000 mg/kg. LD50 Oral (rat) = 4190 mg/kg. Component may cause skin or eye irritation.

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component Acetic Acid: Ecotoxicity in water(LC50) 423 mg/l 24 hours [Fish (goldfish)] , 88 ppm 96 hours [Fish (fathead minnow)], 75ppm 96 hours [Fish (bluegill sunfish)] >100 ppm 96 hours [Daphnia]. BOD-5: 0.34-0.88 g/oxygen/g

Component CAS# 107-98-2: Bioconcentration potential is low (BCF less than 100). Potential for mobility in soil is high (KOC between 0 and 50). Material is readily biodegradable and is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100mg/l in the most sensitive species tested. LC50 fathead minnow 96 hr 20800 mg/l, LC50 water flea 48 hr lethally 23300 mg/l, EbC50 green algae biomass growth inhibition 7 d >1000 mg/l. Toxicity to microorganisms IC50 activated sludge > 1000 mg/l

Component Silicon Dioxide: There is no data that suggests that crystalline silica is toxic to birds, fish, invertebrates, microorganisms or plants.

Component talc CAS# 14807-96-6: There is no data that suggests that crystalline silica is toxic to birds, fish, invertebrates, microorganisms or plants.

Component Titanium Dioxide: Pimephales promelas (fathead minnow) < 1000 mg/l @ 96h LC50; Pseudokirchneriella subcapitata (green algae) 61 mg/l @ 72h EC50; Daphnia magna (water flea) > 1000 mg/l @ 48h EC50

Component CAS# 112-57-2: The products of degradation are less toxic than the product itself.

Component Triethanolamine CAS# 102-71-6: LC50/96hr/48hr/24hr = 450 – 1000 mg/l (bluegill/96hr); 11800 mg/l (fresh water fish/96hr); 1386 mg/l (daphnia magna/24hr); 169mg/l (algae/96hr).

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

DISPOSE OF THE MATERIAL IN A WASTE DISPOSAL SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS.

SECTION 14: Transport Information

DOT: Not Regulated

IMO/IMDG: Not Regulated

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component CAS# 4067-16-7, 112-57-2, 111-40-0, 107-15-3 on TSCS List, OSHA hazard class – Irritant. Regulatory List: On TSCA, on EINECS, DSL, AICS, ENCS, ECL, SEPA, PICCS.

Component Acetic Acid: On the Right to Know list for Rhode Island, Pennsylvania, Florida, Minnesota, Massachusetts, New Jersey, and California director's List of hazardous substances. Listed on TSCA. Listed on DSL Canada, European Inventory. EEC R-35 Causes severe burns.

Component CAS# 107-98-2; on the PA right to know list. Product is on the TSCA list and DSL Canada

Component CAS# 111-76-2: Section 313 toxic Chemical. Section 311 hazard category – Chronic fire, On TSCA list. May contain trace components of benzene, toluene, ethylbenzene and NJTSRN 800963-5170 and contains chemicals known to the state of California to cause cancer and birth defects. All components on the DSL Canada

Component CAS# 8052-41-3: Component is on the TSCA and Canada DSL lists. Component is on the Pennsylvania, California, New Jersey Massachusetts and Minnesota right to know lists.

Component CAS# 12001-26-2: On TSCA list. DSL Canada Listed and is considered an uncontrolled product. Although not on the California Proposition 65 list, it may contain ppm quantities of materials regulated under California's safe drinking water and toxic enforcement act of 1986. such as Crystalline Silica (Silicon Dioxide) is on the TSCA list. NTP list as a known human carcinogen, California proposition 65 list as a known carcinogen, Massachusetts Toxic Use Reduction Act list as toxic, Pennsylvania Worker and community right to know Act list as a hazardous substance.

Component Crystalline Silica (Silicon Dioxide) is on the Canada DSL – WHMIS Classification D2A Crystalline Silica is on the Australian Inventory of Chemicals Substances list, Japan Ministry of International Trade and Industry list, Korea Existing Chemicals Inventory with registry number 9212-5667 and the Philippines Inventory of Chemicals and Chemical Substances list.

Component Ethylene Glycol CAS# 107-21-1: This component is listed as an air pollutant under the clean air act (112). This component is subject to reporting requirements of section 313 of title III of the superfund amendments and reauthorization act of 1986 and 40CFR part 372. This component is a CERCLA listed chemical. This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5043P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5032P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component diethylene Glycol CAS# 111-46-6: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component talc CAS# 14807-96-6 may contain Crystalline Silica (Silicon Dioxide) which is on the TSCA list. NTP list as a known human carcinogen, California proposition 65 list as a known carcinogen, Massachusetts Toxic Use Reduction Act list as toxic, Pennsylvania Worker and community right to know Act list as a hazardous substance.

Component Chlorite CAS# 71949-90-1: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5756P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-6584P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5024P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5023P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5727P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5749P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5579P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5030P: This Component is listed on the Canada DSL, TSCA, lists.

Component Iron Oxide CAS# 1332-37-2: This Component is listed on the Canada DSL, TSCA, lists.

Component Petroleum distillates CAS# 64741-88-4: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component Petroleum distillates CAS# 64741-89-5: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Iron hydroxide oxide CAS# 20344-49-4: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, lists.

Component NJTSRN 56705700001-5747: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component Tributyl phosphate CAS# 126-73-8: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component Barium Sulfate CAS# 7727-43-7: This Component is listed on the Canada DSL, TSCA, EINECS, AICS,

Component isopropanol CAS# 67-63-0: This component is on the TSCA and Canada DSL lists.

Component NJTSRN 56705700001-5578P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5572P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5653P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-5071P: This Component is listed on the Canada DSL, TSCA, lists.

Component NJTSRN 56705700001-5704P: This Component is listed on the Canada DSL, TSCA, lists.

Component NJTSRN 56705700001-5756P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component Chlorite CAS# 71949-90-1: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-6031P: This Component is listed on the Canada DSL, TSCA, lists.

Component NJTSRN 56705700001-6861P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component NJTSRN 56705700001-6584P: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component Titanium Dioxide: Contains Proposition 65 Chemicals, is on the PA Hazardous substance list, is on the NJ right to know Regulated chemical List. Titanium Dioxide is on inventory or in compliance with EINECS, TSCA, AICS, DSL, ENCS (JP), KECI (KR), PICCS (PH) and INV (CN).

Component Kaolin CAS# 1332-58-7: This Component is listed on the Canada DSL, TSCA, EINECS, AICS, TCCL, PICCS lists.

Component CAS# 12001-26-2: On TSCA list. DSL Canada Listed and is considered an uncontrolled product. Although not on the California Proposition 65 list, it may contain ppm quantities of materials regulated under California's safe drinking water and toxic enforcement act of 1986 such as Crystalline Silica (Silicon Dioxide) is on the TSCA list. NTP list as a known human carcinogen, California proposition 65 list as a known carcinogen, Massachusetts Toxic Use Reduction Act list as toxic, Pennsylvania Worker and community right to know Act list as a hazardous substance.

SAFETY DATA SHEET

PRODUCT CODE: 015x

Component CAS# 112-57-2: is on Pennsylvania RTK:Massachusetts RTK: New Jersey: Harmful in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact.

Component Triethanolamine CAS# 102-71-6: Component is on the TSCA, Canada DSL, EINECS, ESCS, KECL, HSNO, NECSI, AICS and ENCS lists.

SECTION 16: OTHER INFORMATION

DISCLAIMER: THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE AND IS BELIEVED TO BE ACCURATE, HOWEVER, THE MANUFACTURER MAKES NO WARRANTY EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF. ACCORDINGLY, WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THIS PRODUCT.

N/A = Not Available

See Section 1 for date of preparation

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM015x Part B
PRODUCT CODES: 015x B

MANUFACTURER: Armoproxy Inc.
STREET ADDRESS: 1260 North Avenue
CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: (888) 755-7361
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: (973) 453-8114

PREPARED BY: Armoproxy Inc.

DATE REVISED: 6/16/16

Chemical Name or Class: Epoxy mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Serious eye damage/Eye irritation category 2A, Skin irritation category 2, skin sensitizer category 1, Long term hazards to aquatic environment Category 2

GHS Label Elements and Precautionary Statements:

Label Elements: Exclamation Mark, Aquatic Toxicity

**Hazard Statements:**

Warning: Causes serious eye irritation.

Warning: Causes skin irritation

Warning: May cause an allergic skin reaction

Toxic to aquatic life with long lasting effects

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

Response

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 IF eye irritation persists: Get medical advice/attention.

P391 Collect spillage.

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

PERSONAL PROTECTIVE EQUIPMENT: B

POTENTIAL HEALTH EFFECTS

SAFETY DATA SHEET

PRODUCT CODE: 015x

EYES:

MAY CAUSE IRRITATION BUT NO CORNEAL INJURY IS LIKELY.

SKIN:

MAY CAUSE IRRITATION OR ALLERGIC SKIN RESPONSE.

INGESTION:

THIS MATERIAL HAS A PROBABLE LOW ACUTE ORAL TOXICITY.

INHALATION:

NO GUIDE FOR CONTROL KNOWN, HOWEVER, EXPOSURE TO HEATED VAPORS CAN CAUSE IRRITATION TO THE NOSE, THROAT OR MUCOUS MEMBRANES.

HEALTH HAZARDS (ACUTE AND CHRONIC):

EPOXY RESINS CAN CAUSE SENSITIZATION BY EXPOSURE THROUGH CONTACT OR HIGH CONCENTRATIONS OF VAPOR. EYES: INJURY IS UNLIKELY BUT STAIN FOR EVIDENCE OF CORNEAL INJURY.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY INGREDIENTS OF THIS PRODUCT ARE REGULATED AS CARCINOGENS.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: NO

ADDITIONAL CARCINOGENICITY INFORMATION:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
MODIFIED DIGLYCIDYL ETHER OF BISPHENOL A	25068-38-6	NONE	NONE	NONE	60-100
ALKYL GLYCIDYL ETHER	68609-97-2	NONE	NONE	NONE	10-30

SECTION 3 NOTES:

No toxic chemical(s) subject to the reporting requirements of section 313 Title III and of 40 CFR 372 are present.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

EYES:

FLUSH EYES WITH WATER FOR AT LEAST FIFTEEN MINUTES AND CONSULT A PHYSICIAN.

SKIN:

SKIN CONTACT WILL NORMALLY CAUSE NO MORE THAN IRRITATION BUT WASH AFFECTED AREA WITH SOAP AND WATER AND REMOVE CONTAMINATED CLOTHING PROMPTLY.

INGESTION:

LOW IN TOXICITY, INDUCE VOMITING ONLY IF LARGE AMOUNTS OF MATERIAL ARE INGESTED, AND OTHERWISE DO NOT INDUCE VOMITING. IN EITHER CASE IMMEDIATELY CONSULT A PHYSICIAN.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND ADMINISTER OXYGEN IF NECESSARY.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% by volume)

UPPER: not available
LOWER: not available

FLASH POINT: 200+F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG

SPECIAL FIRE FIGHTING PROCEDURES:

DO NOT ENTER CONFINED FIRE AREA WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL ALL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NO UNUSUAL FIRE HAZARDS KNOWN.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

WEAR RESPIRATOR AND PROTECTIVE CLOTHING, SHUT OFF THE SOURCE AT THE LEAK. REMOVE EXCESS WITH VACUUM TRUCK AND TAKE UP THE REMAINDER WITH AN ABSORBENT SUCH AS CLAY AND PLACE IN DISPOSAL CONTAINERS. FLUSH AREA WITH WATER TO REMOVE RESIDUE.

SECTION 7: HANDLING AND STORAGE

SAFETY DATA SHEET

PRODUCT CODE: 015x

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN A COOL DRY PLACE. SEAL ALL PARTIALLY USED CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS'S OF ALL THE COMPONENTS PRIOR TO USING MATERIAL. PROPERLY LABEL ALL CONTAINERS.

OTHER PRECAUTIONS:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS GENERATED FROM THE MATERIAL. OBSERVE CONDITIONS OF GOOD GENERAL HYGIENE AND SAFE WORKING PRACTICES. CONTAMINATED LEATHER ARTICLES CAN NOT BE CLEANED AND MUST BE DISCARDED IF CONTAMINATED WITH THIS PRODUCT. WASH ALL CONTAMINATED CLOTHING PRIOR TO THE REUSE THEREOF.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

USE A NIOSH APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVER EXPOSURE TO VAPOR IN ACCORDANCE WITH 29 CFR 1910.134. GENERAL EXHAUST IS USUALLY SUFFICIENT IN LIEU OF NIOSH RESPIRATOR.

VENTILATION:

GENERAL EXHAUST IS USUALLY SUFFICIENT TO CONTROL VAPORS AND EXPOSURE HAZARDS.

PROTECTIVE GLOVES:

IMPERVIOUS GLOVES – NEOPRENE OR RUBBER

EYE PROTECTION:

SPLASH GOGGLES OR GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

WEAR BODY COVERING CLOTHING AND OTHER COVERINGS AS NECESSARY SUCH AS APRON AND APPROPRIATE FOOTWEAR TO AVOID CONTACT WITH MATERIAL.

WORK HYGIENIC PRACTICES:

OBSERVE GOOD GENERAL HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCPATONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: LOW VISCOSITY LIQUID – AMBER CLEAR or COLORS

BOILING POINT OR RANGE: 200+ F

VAPOR DENSITY (AIR = 1): Not available

SPECIFIC GRAVITY (H₂O = 1): 1.1

EVAPORATION RATE: not available

SOLUBILITY IN WATER: NEGLIGIBLE

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

STABLE

CONDITIONS TO AVOID (STABILITY):

AVOID EXCESSIVE HEAT OR OPEN FLAMES

INCOMPATIBILITY (MATERIAL TO AVOID):

CAN REACT VIGOROUSLY WITH STRONG OXIDIZING AGENTS AND STRONG LEWIS ACIDS OR MINERAL ACIDS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

CO₂, ALDEHYDES, ACIDS. REACTION WITH SOME CURING AGENTS CAN GENERATE LARGE AMOUNTS OF HEAT.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Moderate sensitizer, slight eye irritant, moderate skin irritant, Oral LD50 >5000 mg/kg (rat), Dermal LD50 >6000 mg/kg (rabbit)

SAFETY DATA SHEET

PRODUCT CODE: 015x

Component CAS# 68609-97-2: possible sensitizer, eye and skin irritant, Oral LD50 >10000 mg/kg (rat), Inhalation LD50 – no microscopic changes

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Biodegradability (Modified Sturm Method) 12%, Fish toxicity: Rainbow trout (96hr) LC50 1.5mg/l, Zebra Fish (96hr) LC50 2.4 mg/l. Invertebrate Toxicity: Daphnia Toxicity (24hr) EC 50 3.6 mg/l

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

DISPOSE OF THE MATERIAL IN A WASTE DISPOSAL SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAW.

SECTION 14: Transport Information

DOT: Not Regulated

IMO/IMDG: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (CONTAINS Bisphenol A Diglycidyl Ether Polymer) , 9, PGIII, MARINE POLLUTANT

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Considered a hazardous chemical; is on the TSCA list; is on the DSL Canada, WHMIS class D2B; Is on the New Jersey Right to Know list; is on the PA Right to Know List;

Component CAS# 68609-97-2: Considered a hazardous chemical; is on the TSCA list; is on the DSL Canada, Is on the New Jersey Right to Know list; is on the PA Right to Know List.

EPA SARA Title III Section 313 components above the de minimus level: none

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

SAFETY DATA SHEET

PRODUCT CODE: 015x

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM015x PART A Clear
PRODUCT CODES: 015x A Clear

MANUFACTURER: Armorpoxy Inc.
STREET ADDRESS: 1260 North Avenue
CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: 888-755-7361
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy Inc.

DATE REVISED: 4/15/15

Chemical Name or Class: Amine mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Skin corrosion/irritation category 2, Serious eye irritation category 1, Specific target organ toxicity – single exposure category 3 Acute hazard to aquatic environment category 3

GHS Label Elements and Precautionary Statements:

Label Elements: Corrosion, Exclamation Mark



Hazard Statements:

Warning: Causes skin irritation

Danger: Causes serious eye damage

Warning: May cause drowsiness or dizziness

Harmful to aquatic life

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray P271 Use only outdoors or in a well-ventilated area.

Response:

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 take off contaminated clothing and wash it before reuse

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 If in eyes, immediately call a POISON CENTER or doctor/physician.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

P405 Store locked up.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2 **FLAMMIBILITY:** 1 **REACTIVITY:** 0 **PERSONAL PROTECTIVE EQUIPMENT:** G

POTENTIAL HEALTH EFFECTS

EYES:

THIS MATERIAL CAN CAUSE EYE IRRITATION OR REDNESS. HIGH VAPOR CONCENTRATIONS CAN CAUSE SEVERE IRRITATION TO THE EYES.

SKIN:

IRRITATION TO THE SKIN CAN OCCUR BUT DERMAL TOXICITY IS LOW.

INGESTION:

INGESTION OF MATERIAL CAN CAUSE NAUSEA OR OTHER SIMILAR RESPONSES.

INHALATION:

HIGH CONCENTRATIONS OF VAPOR CAN CAUSE IRRITATION TO THE RESPIRATORY TRACT, NAUSEA, AND DIZZINESS.

SAFETY DATA SHEET

PRODUCT CODE: 015x

HEALTH HAZARDS (ACUTE AND CHRONIC):

PROLONGED OR REPEATED EXPOSURE MAY CAUSE ASTHMA AND SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY CONDITIONS OR OTHER ALLERGIC AILMENTS

CARCINOGENICITY

OSHA: NO

NTP: NO

IARC: NO

ADDITIONAL CARCINOGENICITY INFORMATION:

Component Acetic Acid: Chronic effects on humans – Mutagenetic for mammalian somatic cells. Mutagenic for bacteria and yeast.

Component CAS# 107-98-2: Has been reported to be toxic to fetus in laboratory animals. **Component CAS# 8052-41-3:** Epidemiology: Studies involving petroleum refinery workers indicate that persons with routine exposure to petroleum based constituents may be at an increased risk to the development of benign neoplasms, digestive tract cancer and skin cancer.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
1,2 ETHANE DIAMINE, N-(2-AMINO ETHYL)	111-40-0	1 ppm	1 ppm	NONE	<1.0
TETRAETHYLENE PENTAMINE	112-57-2	NONE	NONE	NONE	<1.0
ETHYLENEDIAMINE	107-15-3	10 ppm	10 ppm	10 ppm	<1.0
PENTAETHYLENE HEXAMINE	4067-16-7	NONE	NONE	NONE	<1.0
Polymer of polymerized linseed oil, pentaethylene hexamine, DGEBA-epichlorohydrin copoly, form, DETA and PGE	CAS# not available	NONE	NONE	NONE	10-30
WATER	7732-18-5	NONE	NONE	NONE	30-60
PROPYLENE GLYCOL MONOMETHYL ETHER	107-98-2	100 ppm	100 ppm	150 ppm	10-30
GLACIAL ACITIC ACID	64-19-7	10 ppm	10 ppm	15 ppm	0.1-1
STODDARD SOLVENT	8052-41-3	100ppm	100 ppm	NONE	0.1-1
2-ETHYL-1-HEXANOL	104-76-7	NONE	NONE	NONE	0.1-1
*GLYCOL ETHER 2-BUTOXYETHANOL	111-76-2	25 ppm	25 ppm	NONE	0.1-1
Propylene glycol	57-55-6	NONE	NONE	NONE	0.1-1
Propylene Glycol Monomethyl Ether	107-98-2	100PPM	100PPM	150PPM	0.1-1
1-Methoxy-2-Propanol Acetate	108-65-6	NONE	NONE	NONE	0.1-1

SECTION 3 NOTES: *Indicates toxic chemical(s) subject to reporting requirements of section 313 of Title III and of 40 CFR 372. PROPYLENE GLYCOL MONOMETHYL ETHER CAS #107-98-2 (ACGIH) STEL= 150 PPM.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

EYES:

IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE LIFTING UPPER AND LOWER LIDS. GET IMMEDIATE MEDICAL ASSISTANCE.

SKIN:

FLUSH SKIN WITH WATER FOR AT LEAST 15 MINUTES AND REMOVE ALL CONTAMINATED CLOTHING IMMEDIATELY. GET MEDICAL ATTENTION IF REDDENING OR SWELLING OCCURS.

INGESTION:

DO NOT INDUCE VOMITING. DILUTE BY GIVING WATER OR MILK TO DRINK IF VICTIM IS CONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION:

REMOVE TO FRESH AIR IF EFFECTS PERSIST AND ADMINISTER OXYGEN IF NECESSARY.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% by volume)

UPPER: N/A
LOWER: N/A

FLASH POINT: 200 +F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, WATER FOG

SPECIAL FIRE FIGHTING PROCEDURES:

TOXIC FUMES WILL BE EVOLVED WHEN THIS MATERIAL IS INVOLVED IN A FIRE. A SELF-CONTAINED BREATHING APPARATUS SHOULD BE AVAILABLE FOR FIRE FIGHTERS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE KNOWN

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

AVOID CONTACT WITH MATERIAL. WEAR THE APPROPRIATE SAFETY EQUIPMENT. STOP SPILL AT SOURCE, DYKE AREA TO PREVENT SPREADING. PUMP LIQUID TO SALVAGE TANK. TAKE UP REMAINDER WITH CLAY OR OTHER ABSORBANT AND PLACE IN DISPOSAL CONTAINERS.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS. RESEAL PARTIALLY USED CONTAINERS. PROPERLY LABEL ALL CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. OBSERVE CONDITIONS OF GOOD INDUSTRIAL HYGIENE AND SAFE WORKING PRACTICES.

OTHER PRECAUTIONS:

MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS OF ALL COMPONENTS TO BECOME FAMILIAR WITH ALL HAZARDS PRIOR TO USING THIS PRODUCT.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

NIOSH APPROVED RESPIRATOR PROTECTION REQUIRED IN THE ABSENCE OF PROPER ENVIRONMENTAL CONTROLS.

VENTILATION :

AVOID BREATHING VAPORS, VENTILATION MUST BE SUFFICIENT TO CONTROL VAPORS.

PROTECTIVE GLOVES:

IMPERVIOUS GLOVES, NEOPRENE OR RUBBER.

EYE PROTECTION:

SPLASH PROOF GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

CLEAN BODY COVERING CLOTHING AS WELL AS APRON FOOTWEAR OR OTHER EQUIPMENT SHOULD BE USED AS DEEMED NECESSARY TO AVOID CONTACT WITH THE MATERIAL.

WORK HYGIENIC PRACTICES:

OBSERVE GENERAL GOOD HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCPATONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: LOW VISCOSITY LIQUID – amber clear

BOILING POINT OR RANGE ° F: 212

VAPOR DENSITY (AIR = 1): N/A

SPECIFIC GRAVITY (H2O = 1): 1.0

EVAPORATION RATE: N/A

SOLUBILITY IN WATER: EMULSIFIABLE

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

STABLE

CONDITIONS TO AVOID (STABILITY):

AVOID CONTACT WITH OPEN FLAMES AND ALL SOURCES OF IGNITIONS AND SPARKS.

INCOMPATIBILITY (MATERIAL TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS, MINERAL ACIDS AND EPOXY RESINS IN UNCONTROLLED AMOUNTS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

CO, CO2, NOX

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

SAFETY DATA SHEET

PRODUCT CODE: 015x

No data for the product itself.

Component data:

Component CAS# 57-55-6: Ingestion LD50 = 20000 mg/kg

Component CAS# 107-98-2: Ingestion LD50 >5900 mg/kg

Component CAS# 108-65-6: ingestion LD50 = 8532

Component CAS# 8052-41-3: Draize test (rabbit) eye: 500 mg/24hr – Moderate. Epidemiology: Studies involving petroleum refinery workers indicate that persons with routine exposure to petroleum based constituents may be at an increased risk to the development of benign neoplasms, digestive tract cancer and skin cancer.

Component CAS# 111-40-0: inhalation: LC50 (4hr) <0.3 mg/l (rat); Skin: LD50 >5000 mg/kg(rabbit) Ingestion: LD50 2960 mg/kg (rat). Severe Eye irritation, Moderate skin irritation, May cause sensitization by skin contact.

Component Acetic Acid: Absorbed through the skin. Estimated 4 hr exposure Oral LD50 3310 mg/kg (rat), Estimated Dermal LD50 1060 mg/kg (rabbit), Vapor LC50 5620 mouse). Chronic effects on humans – Mutagenetic for mammalian somatic cells. Mutagenic for bacteria and yeast. May cause damage to kidneys, mucous membranes, skin, teeth. Corrosive by inhalation or skin contact, corrosive to eyes.

Component CAS# 107-98-2: Ingestion LD50 rat 4016 mg/kg, Dermal LD50 rabbit >2000 mg/kg, Inhalation LC50 6 hr Vapor, rat >25.8 mg/l. May cause eye or skin irritation. May effect Kidney or liver. Has been reported to be toxic to fetus in laboratory animals.

Component CAS# 112-57-2: Toxicological Data on Ingredients: Tetraethylenepentamine: ORAL (LD50): Acute: 3990 mg/kg [Rat]. DERMAL (LD50): Acute: 0.66 mg/kg [Rabbit]. Very hazardous in case of skin contact (irritant), of ingestion, . Hazardous in case of skin contact (corrosive, sensitizer, permeator), of eye contact (corrosive), of inhalation (lung corrosive).

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component Acetic Acid: Ecotoxicity in water(LC50) 423 mg/l 24 hours [Fish (goldfish)] , 88 ppm 96 hours [Fish (fathead minnow)], 75ppm 96 hours [Fish (bluegill sunfish)] >100 ppm 96 hours [Daphnia]. BOD-5: 0.34-0.88 g/oxygen/g

Component CAS# 107-98-2: Bioconcentration potential is low (BCF less than 100). Potential for mobility in soil is high (KOC between 0 and 50). Material is readily biodegradable and is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100mg/l in the most sensitive species tested.. LC50 fathead minnow 96 hr 20800 mg/l, LC50 water flea 48 hr lethally 23300 mg/l, EbC50 green algae biomass growth inhibition 7 d >1000 mg/l. Toxicity to microorganisms IC50 activated sludge > 1000 mg/l

Component CAS# 112-57-2: The products of degradation are less toxic than the product itself.

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

DISPOSE OF THE MATERIAL IN A WASTE DISPOSAL SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAWS.

SECTION 14: Transport Information

DOT: Not Regulated

IMO/IMDG: Not Regulated

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component CAS# 57-55-6: Listed on TSCA and DSL

Component CAS# 107-98-2: Listed on TSCA and DSL

Component CAS# 108-65-6: Listed on TSCA and DSL

Component CAS# 111-76-2: Section 313 toxic Chemical. Section 311 hazard category – Chronic fire, On TSCA list. May contain trace components of benzene, toluene, ethylbenzene and NJTSRN 800963-5170 and contains chemicals known to the state of California to cause cancer and birth defects. All components on the DSL Canada

Component CAS# 8052-41-3: Component is on the TSCA and Canada DSL lists. Component is on the Pennsylvania, California, New Jersey Massachusetts and Minnesota right to know lists.

Component CAS# 4067-16-7, 112-57-2, 111-40-0, 107-15-3 on TSCS List, OSHA hazard class – Irritant. Regulatory List: On TSCA, on EINECS, DSL, AICS, ENCS, ECL, SEPA, PICCS.

Component Acetic Acid: On the Right to Know list for Rhode Island, Pennsylvania, Florida, Minnesota, Massachusetts, New Jersey, and California director's List of hazardous substances. Listed on TSCA. Listed on DSL Canada, European Inventory. EEC R-35 Causes severe burns.

Component CAS# 107-98-2; on the PA right to know list. Product is on the TSCA list and DSL Canada

Component CAS# 112-57-2: is on Pennsylvania RTK:Massachusetts RTK: New Jersey: Harmful in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact.

SECTION 16: OTHER INFORMATION

DISCLAIMER: THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE AND IS BELIEVED TO BE ACCURATE, HOWEVER, THE MANUFACTURER MAKES NO WARRANTY EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA

SAFETY DATA SHEET

PRODUCT CODE: 015x

OR THE RESULTS OBTAINED FROM THE USE THEREOF. ACCORDINGLY, WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THIS PRODUCT.

N/A = Not Available

See Section 1 for date of preparation

SAFETY DATA SHEET

PRODUCT CODE: 015x

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM015x Part B Clear
PRODUCT CODES: 015x B Clear

MANUFACTURER: Armorpoxy Inc.
STREET ADDRESS: 1260 North Avenue
CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: 888-755-7361
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy Inc.
DATE REVISED: 4/15/15

Chemical Name or Class: Epoxy mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Serious eye damage/Eye irritation category 2A, Skin irritation category 2, skin sensitizer category 1, Long term hazards to aquatic environment Category 2

GHS Label Elements and Precautionary Statements:

Label Elements: Exclamation Mark, Aquatic Toxicity



Hazard Statements:

Warning: Causes serious eye irritation.

Warning: Causes skin irritation

Warning: May cause an allergic skin reaction

Toxic to aquatic life with long lasting effects

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

Response

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 IF eye irritation persists: Get medical advice/attention.

P391 Collect spillage.

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2 **FLAMMABILITY:** 1 **REACTIVITY:** 0 **PERSONAL PROTECTIVE EQUIPMENT:** B

POTENTIAL HEALTH EFFECTS

EYES:

MAY CAUSE IRRITATION BUT NO CORNEAL INJURY IS LIKELY.

SKIN:

MAY CAUSE IRRITATION OR ALLERGIC SKIN RESPONSE.

INGESTION:

THIS MATERIAL HAS A PROBABLE LOW ACUTE ORAL TOXICITY.

INHALATION:

NO GUIDE FOR CONTROL KNOWN, HOWEVER, EXPOSURE TO HEATED VAPORS CAN CAUSE IRRITATION TO THE NOSE, THROAT OR MUCOUS MEMBRANES.

HEALTH HAZARDS (ACUTE AND CHRONIC):

EPOXY RESINS CAN CAUSE SENSITIZATION BY EXPOSURE THROUGH CONTACT OR HIGH CONCENTRATIONS OF VAPOR.

EYES: INJURY IS UNLIKELY BUT STAIN FOR EVIDENCE OF CORNEAL INJURY.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY INGREDIENTS OF THIS PRODUCT ARE REGULATED AS CARCINOGENS.

SAFETY DATA SHEET

PRODUCT CODE: 015x

CARCINOGENICITY

OSHA: NO NTP: NO IARC: NO

ADDITIONAL CARCINOGENICITY INFORMATION:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>OSHA STEL</u>	<u>WEIGHT %</u>
MODIFIED DIGLYCIDYL ETHER OF BISPHENOL A	25068-38-6	NONE	NONE	NONE	60-100
ALKYL GLYCIDYL ETHER	68609-97-2	NONE	NONE	NONE	10-30

SECTION 3 NOTES:

No toxic chemical(s) subject to the reporting requirements of section 313 Title III and of 40 CFR 372 are present.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

EYES:

FLUSH EYES WITH WATER FOR AT LEAST FIFTEEN MINUTES AND CONSULT A PHYSICIAN.

SKIN:

SKIN CONTACT WILL NORMALLY CAUSE NO MORE THAN IRRITATION BUT WASH AFFECTED AREA WITH SOAP AND WATER AND REMOVE CONTAMINATED CLOTHING PROMPTLY.

INGESTION:

LOW IN TOXICITY, INDUCE VOMITING ONLY IF LARGE AMOUNTS OF MATERIAL ARE INGESTED, AND OTHERWISE DO NOT INDUCE VOMITING. IN EITHER CASE IMMEDIATELY CONSULT A PHYSICIAN.

INHALATION:

REMOVE VICTIM TO FRESH AIR AND ADMINISTER OXYGEN IF NECESSARY.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% by volume)

UPPER: not available
LOWER: not available

FLASH POINT: 200+F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL, WATER FOG

SPECIAL FIRE FIGHTING PROCEDURES:

DO NOT ENTER CONFINED FIRE AREA WITHOUT FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL ALL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

NO UNUSUAL FIRE HAZARDS KNOWN.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

WEAR RESPIRATOR AND PROTECTIVE CLOTHING, SHUT OFF THE SOURCE AT THE LEAK. REMOVE EXCESS WITH VACUUM TRUCK AND TAKE UP THE REMAINDER WITH AN ABSORBENT SUCH AS CLAY AND PLACE IN DISPOSAL CONTAINERS. FLUSH AREA WITH WATER TO REMOVE RESIDUE.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE IN A COOL DRY PLACE. SEAL ALL PARTIALLY USED CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES. MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS'S OF ALL THE COMPONENTS PRIOR TO USING MATERIAL. PROPERLY LABEL ALL CONTAINERS.

OTHER PRECAUTIONS:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS GENERATED FROM THE MATERIAL. OBSERVE CONDITIONS OF GOOD GENERAL HYGIENE AND SAFE WORKING PRACTICES. CONTAMINATED LEATHER ARTICLES CAN NOT BE CLEANED AND MUST BE DISCARDED IF CONTAMINATED WITH THIS PRODUCT. WASH ALL CONTAMINATED CLOTHING PRIOR TO THE REUSE THEREOF.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

SAFETY DATA SHEET

PRODUCT CODE: 015x

USE A NIOSH APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVER EXPOSURE TO VAPOR IN ACCORDANCE WITH 29 CFR 1910.134. GENERAL EXHAUST IS USUALLY SUFFICIENT IN LIEU OF NIOSH RESPIRATOR.

VENTILATION:

GENERAL EXHAUST IS USUALLY SUFFICIENT TO CONTROL VAPORS AND EXPOSURE HAZARDS.

PROTECTIVE GLOVES:

IMPERVIOUS GLOVES – NEOPRENE OR RUBBER

EYE PROTECTION:

SPLASH GOGGLES OR GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

WEAR BODY COVERING CLOTHING AND OTHER COVERINGS AS NECESSARY SUCH AS APRON AND APPROPRIATE FOOTWEAR TO AVOID CONTACT WITH MATERIAL.

WORK HYGIENIC PRACTICES:

OBSERVE GOOD GENERAL HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCUPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: LOW VISCOSITY LIQUID – AMBER CLEAR or COLORS

BOILING POINT OR RANGE: 200+ F

VAPOR DENSITY (AIR = 1): Not available

SPECIFIC GRAVITY (H₂O = 1): 1.1

EVAPORATION RATE: not available

SOLUBILITY IN WATER: NEGLIGIBLE

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

STABLE

CONDITIONS TO AVOID (STABILITY):

AVOID EXCESSIVE HEAT OR OPEN FLAMES

INCOMPATIBILITY (MATERIAL TO AVOID):

CAN REACT VIGOROUSLY WITH STRONG OXIDIZING AGENTS AND STRONG LEWIS ACIDS OR MINERAL ACIDS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

CO₂, ALDEHYDES, ACIDS. REACTION WITH SOME CURING AGENTS CAN GENERATE LARGE AMOUNTS OF HEAT.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR.

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Moderate sensitizer, slight eye irritant, moderate skin irritant, Oral LD50 >5000 mg/kg (rat), Dermal LD50 >6000 mg/kg (rabbit)

Component CAS# 68609-97-2: possible sensitizer, eye and skin irritant, Oral LD50 >10000 mg/kg (rat), Inhalation LD50 – no microscopic changes

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Biodegradability (Modified Sturm Method) 12%, Fish toxicity: Rainbow trout (96hr) LC50 1.5mg/l, Zebra Fish (96hr) LC50 2.4 mg/l. Invertebrate Toxicity: Daphnia Toxicity (24hr) EC 50 3.6 mg/l

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

DISPOSE OF THE MATERIAL IN A WASTE DISPOSAL SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL LAW.

SECTION 14: Transport Information

DOT: Not Regulated

IMO/IMDG: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (CONTAINS Bisphenol A Diglycidyl Ether Polymer) , 9, PGIII, MARINE POLLUTANT

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component CAS# 25068-38-6: Considered a hazardous chemical; is on the TSCA list; is on the DSL Canada, WHMIS class D2B; Is on the New Jersey Right to Know list; is on the PA Right to Know List;

Component CAS# 68609-97-2: Considered a hazardous chemical; is on the TSCA list; is on the DSL Canada, Is on the New Jersey Right to Know list; is on the PA Right to Know List.

EPA SARA Title III Section 313 components above the de minimus level: none

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM322x part A (clear)

PRODUCT CODES: 322x A

MANUFACTURER: Armorpoxy Inc

STREET ADDRESS: 1260 North Ave

CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: 888-755-7361

EMERGENCY PHONE: Chemtrec 800-424-9300

FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy Inc.

DATE REVISED: 1/22/19

Chemical Name or Class: Polyester polyol solution

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Flammable liquid category 3, Specific target organ toxicity – single exposure category 3, Acute oral toxicity category 4, Skin corrosion/irritation category 2, Serious eye irritation category 2A, Acute toxicity inhalation category 4, Acute Toxicity skin category 4, Specific target organ toxicity repeated exposure category 2 Acute hazard to aquatic environment category 3

GHS Label Elements and Precautionary Statements:

Label Elements: Flame, Health Hazard, Exclamation Mark



Hazard Statements:

Warning: Flammable liquid and vapor.

Warning: May cause respiratory irritation

Warning: Harmful if swallowed

Warning: Causes skin irritation

Warning: Causes serious eye irritation

Warning: Harmful if inhaled

Warning: Harmful in contact with skin.

Warning: May cause damage to organs (auditory system) through prolonged or repeated exposure.

Harmful to aquatic life.

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P271 Use only outdoors or in a well-ventilated area.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P370 + P378 In case of fire: Use Foam, alcohol foam, CO2, dry chemical, water fog for extinction.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P312 If Inhaled, Call a POISON CENTER or doctor/physician if you feel unwell.

P301 + P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

P330 Rinse mouth.

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

P337 + P313 IF eye irritation persists: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P233 Keep container tightly closed.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

Other Non-classifiable potential hazards

Carcinogenicity category 2, (Ethyl benzene at less than 17% in a study done by the NTP was determined to not be carcinogenic.)

HMIS HAZARD CLASSIFICATION

HEALTH: 2 FLAMMIBILITY: 3 REACTIVITY: 0 PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS

EYES:

May cause corneal damage if left untreated which is slow to heal but usually reversible.

SKIN:

May cause irritation or allergic response. May cause defatting, dryness, cracking, rash or redness or dermatitis.

SKIN ABSORPTION:

Solvents can penetrate the skin causing effects similar to those for acute inhalation symptoms.

INGESTION:

Can cause irritation to the digestive tract including sore throat, abdominal pain, nausea, vomiting and diarrhea.

Vomiting may Cause Aspiration of solvents resulting in chemical pneumonitis.

INHALATION health risks and symptoms of exposure:

Solvent vapors are irritating to the eyes, nose and throat and respiratory tract resulting in dryness of the throat and tightness in the chest. Other symptoms include headache, nausea, narcosis, fatigue and loss of appetite.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Chronic Exposure to organic solvents has been associated with various neurotoxic effects including brain damage, nervous system damage or death. Prolonged vapor contact may cause conjunctivitis. Chronic inhalation may also include loss of memory, loss of intellectual ability and loss of coordination. Corneal damage is possible but usually reversible. Repeated Exposure to solvents can cause anemia, liver abnormalities, kidney damage or cardiac abnormalities.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Respiratory conditions or other allergic response.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: yes

ADDITIONAL CARCINOGENICITY INFORMATION:

May Contain Ethyl Benzene (IARC possible carcinogen)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
POLYESTER POLYOL	NJTSRNS0001C	NONE	NONE	NONE	40-70
Siloxanes and silicones, di-me reactions products with silica (non-hazardous)					
	67762-90-7	none	none	none	0.1-1
siloxanes and silicones, di-methyl (non-hazardous)					
	63148-62-9	none	none	none	0.1-1
*XYLENE	1330-20-7	100PPM	100PM	150PPM	14
*ethyl benzene (as a component of xylene)	100-41-4	100ppm	100ppm	125ppm	<2.0
2,6-Dimethyl-4-Heptanone	108-83-8	25 ppm	25 ppm	none	0.1-1
polyalkylene glycol	9038-95-3	none	none	none	0.1-1
4,6-dimethyl-2-heptanone	19549-80-5	none	none	none	0.1-1
Dibutyltin Dilurate	77-58-7	0.1mg / m3	0.1mg / m3	0.1mg / m3	0.1-1
Cellulose Acetate Butyrate	9004-36-8	none	none	none	0.1-1
Methyl N-Amyl Ketone	110-43-0	100 ppm	50 ppm	none	10-30
4-chlorobenzotrifluoride	98-56-6	none	none	none	3-7
Additive	NJTSRN 800963-5023	none	none	none	0.1-1
Light stabilizer	Trade Secret	none	none	none	0.1-1
Benzotriazole Derivative, Branched Ester	Trade Secret	none	none	none	0.1-1

SECTION 3 NOTES: *Indicates toxic chemical(s) subject to reporting requirements of section 313 of Title III and of 40 CFR 372. All components are on the TSCA list. Xylene Stel= 150PPM (ACGIH) Methyl N-Amyl Ketone Stel (ACGIH)= 100PPM.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4 FIRST AID MEASURES

EYES:

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

Flush eyes with water for at least fifteen minutes and consult a physician.

SKIN:

Wash affected area with soap and water and remove contaminated clothing promptly.

INGESTION:

Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.

INHALATION:

Remove victim to fresh air area and administer oxygen if necessary. Consult a physician if necessary.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% BY VOLUME)

UPPER: not available
LOWER: not available

FLASH POINT: 100F

METHOD USED:

Seta Flash

EXTINGUISHING MEDIA:

Foam, alcohol foam, CO2, dry chemical, water fog.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Cool all fire exposed containers with water. Minimize contact with material.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Closed containers may explode when exposed to extreme heat. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source which can result in flash back to the source of the vapors. Toxic vapors could be evolved from the combustion of this material.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition and ventilate the area. Wear appropriate protective equipment such as vapor cartridge or air supplied respirator when necessary. Dike and absorb the material with absorbent such as clay and place in disposal containers.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in cool dry area. Seal all partially used containers. Wash with soap and water before eating, drinking, smoking or using the toilet facilities. Mixed materials contain the hazards of all the components, therefore, read the MSDS's of all the components prior to using the material. Properly label all containers.

OTHER PRECAUTIONS:

Avoid all skin contact. Avoid breathing vapors generated from the material. Observe conditions of good general hygiene and safe working practices. Contaminated leather articles cannot be cleaned and must be discarded if contaminated with this product. Wash all contaminated clothing prior to the reuse thereof. Supply appropriate ventilation or engineering controls prior to using this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Use a NIOSH approved respirator as required to prevent over-exposure to vapor in accordance with 29 CFR 1910.134. Use a positive pressure respirator when airborne concentrations are not known or if exceeding TLV's or if working in a confined space. Always consider the hazards from all components in the mixed material state.

VENTILATION :

Exhaust ventilation sufficient to keep the airborne concentrations of the solvents and other hazardous materials below the toxic level concentrations.

PROTECTIVE GLOVES:

Impervious gloves – neoprene or rubber.

EYE PROTECTION:

Splash goggles or glasses with side shields. If the environment warrants, a full face shield should be employed.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.

WORK HYGIENIC PRACTICES:

Observe good general hygienic practices.

SEE SECTION THREE FOR OCCUPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: low viscosity liquid with ketone solvent odor.

BOILING POINT OR RANGE: 279 to 375F

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

VAPOR DENSITY (AIR = 1): not available
SPECIFIC GRAVITY (H₂O = 1): 1.0
EVAPORATION RATE: not available
SOLUBILITY IN WATER: negligible

Odor Threshold: N/A
pH: N/A
Melting point/freezing point: N/A
Vapor Pressure: N/A
Auto Ignition Temperature: N/A
Partition Coefficient: n-octanol/water: N/A
Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

stable

CONDITIONS TO AVOID (STABILITY):

Avoid excessive heat or open flames. This material should not be mixed with phosphorous containing material or oxidizers.

INCOMPATIBILITY (MATERIAL TO AVOID):

Can react Vigorously with strong oxidizing agents and phosphorous containing materials.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION:

Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component CAS# 9038-95-3: Acute oral toxicity LD50 = 5370 mg/kg (rat); Acute dermal toxicity LD50 = 21000 mg/kg (rabbit); Acute inhalation toxicity LC50 = 4670 ppm (rat); Skin irritation – slight irritation (rabbit); Eye irritation – mild irritation (rabbit)

Component CAS# 108-83-6: Acute oral toxicity LD50 = 5800 mg/kg (rat); Acute dermal toxicity LD50 = 16000 mg/kg (rabbit); Acute inhalation toxicity LC50 = 2000 ppm (rat); Skin irritation – slight irritation (rabbit); Eye irritation – mild eye irritation (rabbit)

Component Xylene: Inhalation LC50 26800ppm, Skin LD50 2000 mg/kg, Ingestion LD50 4.3 g/kg. Exposure may effect skin, eye, liver, kidney, nervous system, respiratory system and lungs. High concentrations may lead to nervous system effects. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Aspiration into lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal. Xylene may contain ethyl benzene, and toluene. Ethyl benzene has shown limited evidence of a carcinogenic effect.

COMPONENT Ethyl Benzene: Acute Oral toxicity LD50: ca. 3500 mg/kg (rat); Acute inhalation LC50: 17.2 mg/l 4h (rat); Acute Dermal Toxicity: 17,800 mg/kg (rabbit); Skin Irritation rabbit Draize exposure time 24h – slightly irritating. Eye Irritation rabbit Draize – severely irritating. Sensitization dermal (human patch test) non-sensitizer. Repeated Dose toxicity 28 days inhalation NOAEL: 3.4 mg/l (rabbit). Mutagenicity Genetic Toxicity in Vitro: Ames: Negative (salmonella typhimurium, metabolic activation with/without). Carcinogenicity: Ethyl benzene was tested by inhalation exposure in mice and rats. In mice, there was an increased incidence of lung adenomas in males and liver adenomas in females. In male rats, there was an increased incidence of renal tubule adenomas and carcinomas. Two Studies of workers potentially exposed to ethyl benzene in a production plant and a styrene polymerization plant, showed no excess cancer incidence and no excess cancer mortality during a 15 year follow-up. Toxicity to Reproduction/Fertility: Inhalation (monkey, male) Reproductive effects have been observed in animal studies, In a generation study, inhalation (rat/female) NOAEL (parental): 100ppm NOAEL (F2): 100ppm. Developmental Toxicity/Teratogenicity rat, female, inhalation, gestation, daily, NOAEL (teratogenicity): 100ppm (maternal): 100ppm. Teratogenic effects seen only with maternal toxicity., Fetotoxicity seen only with maternal toxicity. Rabbit, female, inhalation, gestation, daily, NOAEL (teratogenicity) < 1000 mg/m3, NOAEL (maternal) < 1000 mg/m3.

Component Dibutyltin Dilaurate CAS# 77-58-7: ACUTE ORAL TOX (LD50,RAT) 3200.00 MG/KG. ACUTE DERMAL TOX (LD50,RABBIT) >2000 MG/KG (NO DEATHS). ACUTE INHAL TOX (LC50, RAT) >8.10 MG/L/1 HR. AMES TEST: NEG (ACTIVATED & NONACTIVATED) INDUST CHEMS SUCH AS THIS MATL W/ACUTE TOX VALUES SHOWN & WHOSE VAPS/MISTS ARE NOT LIKELY TO BE ENCOUNTERED BY HUMANS WHEN USED IN ANY REASONABLY FORESEEABLE MANNER WOULD NOT REQ TOXIC LBL ACCORD TO U.S. DOMESTIC & INTERNATIONAL TRANSPORT REQS. IRRITATION DATA: SEV IRRITANT TO EYES OF RABBIT. MOD IRRITANT TO SKIN OF RABBIT.

Component Cellulose Acetate Butyrate Ester CAS# 9004-36-8: Oral LD-50: (Rat): > 3,200 mg/kg (highest dose tested). Dermal LD-50: (Guinea Pig): > 1,000 mg/kg (highest dose tested). Skin Corrosion: (Guinea Pig, 24 h): slight. Skin sensitization: not a sensitizer.

Component CAS# 110-43-0: Oral LD 50 (rat): 1600 mg/kg; Oral LD50 (mouse) 730 mg/kg; Inhalation LC50 (rat) 2000-4000 ppm, 4 hr. Dermal LD50 (rabbit) 10206 mg/kg; Dermal LD50 (guinea pig) >16200 mg/kg; Skin irritation (Rabbit) – slight to moderate; Eye irritation (rabbit) slight; Skin sensitization (human) none

Component additive NJTSRN 800963-5023: Acute oral toxicity: LD50 rat>8,000,000 mg/kg; skin irritation rabbit – no skin irritation

Component(s) Light stabilizer CAS# Trade Secret and Benzotriazole Derivative, Branched Ester CAS# Trade Secret: Acute oral toxicity: LD50 / oral / rat: > 2,000 mg/kg (Based on components). Skin irritation: Not expected to be a skin irritant. (based on known component information). Eye irritation: Not expected to be an eye irritant. (Based on components). Skin irritation: Not expected to be a skin irritant. (based on known component information). Eye irritation:

Not expected to be an eye irritant. (Based on components). Skin Sensitization: Not expected to cause sensitization. (based on known component information). Subchronic Toxicity: Information on: Benzotriazole Derivative, Branched Ester

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

In a 14-day study, rats were administered the active ingredient at 0, 10, 100, or 1,000 mg/kg by gavage. The 100 and 1,000 mg/kg dose levels were found to cause elevated serum liver enzyme levels and enlarged livers. The no observable effect level (NOEL) was 10 mg/kg. In a 28-day study, rats were administered the active ingredient at 0, 2, 50, and 500 mg/kg by gavage. No treatment-related clinical or neurological signs of toxicity or mortalities were recorded. Treatment-related effects, including mild anemia and toxic effects in the liver, were seen. Slight activity of the thyroid gland was also recorded and considered a secondary response to the effects in the liver. The no observable effect level (NOEL) was 2 mg/kg. Information on: Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl)ester, reaction products with tert-Bu hydroperoxide and octane In a 28-day study, rats were administered daily oral doses of 10, 100 or 1000 mg/kg/day. Males only in the 1000 mg/kg dose group exhibited a reversible, minor effect on prothrombin time, as well as effects on

The formation and development of blood cells in the liver that were not totally reversed by the two-week recovery period. The no observable effect level (NOEL) was determined as 100 mg/kg in the males and 1000 mg/kg in the females. piperidinyl)ester, reaction products with tert-Bu hydroperoxide and octane Information on: Decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl)ester, reaction products with tert-Bu hydroperoxide and octane. Genetic toxicity: Non-mutagenic (based on composition).

Component 4-chlorobenzotrifluoride CAS# 98-56-6: Oral Rat LD50 >6700 mg/kg. Inhalation rat LC50 (4 hr) = 4,370 ppm. Dermal Rabbit LD50 > 2,700 mg/kg. EYE IRRITATION DATA: In eye irritation studies, the compound was found to be slightly to moderately irritating. SKIN IRRITATION DATA: In skin irritation studies, the compound was found to be slightly to moderately irritating. SKIN SENSITIZATION DATA: No skin sensitization data are available on this material. SUBCHRONIC DATA: A 13-week inhalation study was conducted in rats exposed for 6 hours per day, 5 days a week at concentrations of 0, 10, 51, or 252 ppm. An increase in liver weights was seen in the high dose group. No macroscopic effects were noted. No adverse central nervous system effects were observed as measured by motor activity, functional observation battery, or neuropathology. In a separate study, rats were dosed daily via oral gavage for three months at 0, 10, 40, 150, or 500 mg/kg. Effects noted included initial decrease in body weight gain, decreased food consumption, and changes in biochemical parameters. Increases were noted in liver, kidney, and thyroid weights in both sexes in most treatment groups. Microscopic effects were also observed in these same organs. No overt physical signs of toxicity were observed during treatment. Effects similar to those described in the above two studies have also been observed in shorter inhalation and oral gavage testing. REPRODUCTIVE TOXICITY: In a two-generation reproduction study rats were exposed daily via oral gavage at doses of 0, 5, 15, and 45 mg/kg. Only limited reproductive effects were noted. TERATOGENICITY (birth defects): No teratogenicity data are available on this material. MUTAGENICITY: This material was found to be negative in the following in vitro mutagenicity studies: chromosomal aberration study, cell transformation assay, DNA repair deficiency assay, and the mouse lymphoma forward mutation assay. In the in vitro Ames test, the compound was generally found to be negative; however two strains at the high dose produced positive results. In the in vitro sister chromatid exchange test, the compound produced positive results. In the in vivo cytogenetic assay in rats, the compound was found to be negative.

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component Xylene: Acute Toxicity: Fish: Toxic 1 < LC/EC/IC50 < 10mg/l, Aquatic Invertebrates: Toxic 1 < LC/EC/IC50 < 10mg/l, Algae: Toxic 1 < LC/EC/IC50 < 10 mg/l. Mobility – floats on water. If it enters the soil it will be highly mobile and may contaminate groundwater. Oxidizes rapidly by photo-chemical reactions in air.

COMPONENT Ethyl Benzene: Biodegradation, Aerobic, 50%, Exposure time 28 days. Biochemical Oxygen demand (BOD) 5 days, 2.8% and 35 days, 1780 mg/g. Bioaccumulation: Cyprinus carpio (Carp), 15 BCF. Acute and Prolonged Toxicity to Fish LC50: 12.1 mg/l (fathead minnow, 96 h). Acute Toxicity to Aquatic Invertebrates EC50: 1.8-2.9 mg/l (water flea, 48 h). Toxicity to Aquatic Plants EC50: 4.6 mg/l (green algae, 72 h). Toxicity to microorganisms EC50: 130 mg/l (activated sludge microorganisms, 48 hr).

Component CAS# 110-43-0: BOD-5: 1770 mg/kg; BOD-20: 2000 mg/kg; COD: 2420 mg/kg. Acute Aquatic Effects: 96 hr LC50 (fathead minnow) 131 mg/l and 48 hr EC50 (daphnia) >90 mg/l (highest concentration tested)

Component 763-69-9: Possibly hazardous short term degradation products are not likely, however long term degradation products may arise. The product itself and its products of degradation are not toxic.

Component 4-chlorobenzotrifluoride CAS# 98-56-6: This compound is harmful to fish, Daphnia, and algae. Relatively biodegradable. This substance is not expected to bioaccumulate. Insoluble in water; water volatility may be high. OTHER ECOTOXICOLOGICAL DATA: In a chronic fish study in Pimephales promelas, the NOEC and LOEC values were found to be 0.54 mg/l and 1.4 mg/l, respectively.

ENVIRONMENTAL FATE DATA: In an anaerobic screening study, the substance was found to degrade 64% after 59 days. This substance is not expected to bioaccumulate based on an estimated bioconcentration factor (BCF) of 120.

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

Dispose of the material in a waste disposal site in accordance with local, state, and federal laws. Empty containers should be handled with care due to product residue and possible vapor from organic solvents. Never use a gas or electric torch to cut the drums.

SECTION 14: Transport Information

DOT: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, ETHYL BENZENE), 3, PG III

IMO/IMDG: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, ETHYL BENZENE), 3, PG III

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component Polyester Polyol NJTSRNS0001C: All components of this product are on the Canada DSL list and TSCA list.

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

Component Siloxanes and silicones, di-me reactions products with silica: Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

Component siloxanes and silicones, di-methyl: Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

Component CAS# 108-83-6: Pennsylvania, Massachusetts and New Jersey Right to Know, (On TSCA, DSL lists)

Component CAS# 9038-95-3 Pennsylvania and New Jersey Right to know (On TSCA, DSL Lists)

Component Xylene: Xylene contains EPCRA section 313 chemicals subject to the reporting requirements of the emergency planning and community right to know act of 1968. (Maximum wt % for components of xylene are: M-Xylene CAS# 108-38-3 is 46%, P-Xylene CAS# 106-42-3 is 20%, Ethyl Benzene CAS# 100-41-4 is 19%, O-Xylene CAS# 95-47-6 is 16%.. Xylene and its components are on the California Proposition 65 list for developmental toxicity, Reproductive toxicity and carcinogen list. Ingredients are on the TSCA list, DSL Canada, AICS, China, EINECS, ENCS, Korea, New Zealand, Phillipines inventory lists and on the Massachusetts, New Jersey, Pennsylvania right to know lists. Ethyl Benzene a component of xylene has been designated by IARC as a possible carcinogen to humans based on increased tumor incidence in laboratory animals. risk phrases R10 Flammable R20/21 Harmful by inhalation and in contact with skin, R38 irritating to skin, S25 Avoid contact with eyes.

COMPONENT Ethyl Benzene: US EPA CERCLA Hazardous Substances (40 CFR 302): Ethyl Benzene reportable quantity 1000 lbs. US EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.5) components, Ethyl Benzene. California Prop 65: This product contains chemicals known to the State of California to be carcinogenic: Ethyl Benzene CAS# 100-41-4 @ 1-5%.

Massachusetts, New York, Pennsylvania Right to Know list includes the following components: Ethyl Benzene CAS# 100-41-4.

Massachusetts, New York, Pennsylvania Special hazardous Substance includes the following components: Ethyl Benzene CAS# 100-41-4

Component Dibutyltin Dilurate CAS# 77-58-7: Sara Title III Information: TOXIC SUBSTANCES CONTROL ACT (TSCA): ALL COMPONENTS ARE INCL IN EPA TOXIC SUBSTANCES CTL ACT (TSCA) CHEM SUBSTANCE INVENTORY. OSHA HAZARD COMMUNICATION STD (29CFR1910.1200) HAZARD CLASS(ES): IRRITANT.KIDNEY TOXIN. EPA SARA TITLE III SECTION 312 (40CFR370) HAZARD CLASS. IMMEDIATE HAZARD. EPA SARA TITLE III 313 (40CFR372) TOXIC CHEMICALS "DE MINIMIS" LEVEL ARE NONE. Federal Regulatory Information: CANADA DSL-INCL ON INVENTORY. HAZARD CLASSIFICATION-CLASS D DIVISION 2B..(EEC). EINECS /ELINCS MASTER INVENTORY-INCLUDED ON INVENTORY. EEC SYMBOL-HARMFUL (XN). EEC RISK (R) PHRASES-IRRITATING TO EYES & SKIN (R36/38). HARMFUL BY INHAL (R20). EEC SFTY PHRASES-IN CASE OF CONT W/EYES, RINSE IMMEDIATE W/PLENTY OF WATER & SEEK MED ADVICE (S26). AUSTRALIA-AICS-INCLUDED ON INVENTORY. State Regulatory Information: STATE REGS: PROPOSITION 65 SUBSTANCES (COMPONENT(S) KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY & SUBJECT TO WARNING & DISCHARGE REQUIREMENTS UNDER "SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986"):NONE.

Component Cellulose Acetate Butyrate Ester CAS# 9004-36-8: WHMIS (Canada) Status: noncontrolled, OSHA: nonhazardous, TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing. DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing. AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS. MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification. ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act. Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS. Inventory of Existing Chemical Substances in China: All components are listed on the Inventory of Existing Chemical Substances in China (IECSC) or are covered under a polymer exemption.

Component CAS# 110-43-0: On DSL and TSCA, EINECS, AICS, MITI and ECL lists.

Component additive NJTSRN 800963-5023: on TSCA List. Not a California Prop 65 chemical

Component(s) Light stabilizer CAS# Trade Secret and Benzotriazole Derivative, Branched Ester CAS# Trade Secret:

Canada: Domestic Substances List (DSL): All components either exempt or listed on the DSL. This material does not contain any hazardous components that are reportable according to WHMIS criteria. US: Toxic Substances Control Act (TSCA): All component(s) comprising this product are either exempt or listed on the TSCA inventory

Component 4-chlorobenzotrifluoride CAS# 98-56-6: All chemical substances contained within this product either are listed on the Toxic Substances Control Act (TSCA) Chemical Substance Inventory or exempt under TSCA. CPR (Canadian Controlled Products Regulations) This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations WHMIS Classification: Not controlled, IDL (Canadian Ingredient Disclosure List) Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2. DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List) Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated. EINECS (European Inventory of Existing Commercial Chemical Substances) Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances. This material or all of its components are listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS). Other inventory lists: Korea (TCCL), Australia (AICS), China (Draft), PICCS (Philippines-RA6969), Japan (ENCS METI/MOL).

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM322x part B (clear)

PRODUCT CODES: 322x B

MANUFACTURER: Armorpoxy Inc.

STREET ADDRESS: 1260 North Ave

CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: 888-755-7361

EMERGENCY PHONE: Chemtrec 800-424-9300

FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy Inc

DATE REVISED: 1/22/19

Chemical Name or Class: isocyanate/solvent mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Flammable liquid category 3, Specific target organ toxicity single exposure category 3, Specific target organ toxicity following repeated exposure category 2, Respiratory sensitization category 1B, Skin corrosion/irritation category 2, skin sensitizer category 1B, Serious eye irritation category 2B, Acute toxicity inhalation category 4, Acute hazard to aquatic environment category 3, Chronic hazards to aquatic environment category 3

GHS Label Elements and Precautionary Statements:

Label Elements: Flame, Health Hazard Exclamation Mark



Hazard Statements:

Warning: Flammable liquid and vapor

Warning: May cause respiratory irritation

Warning: May cause damage to organs (auditory) through prolonged or repeated exposure

Danger: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Warning: Causes skin irritation

Warning: May cause an allergic skin reaction

Warning: Causes serious eye irritation

Warning: Harmful if inhaled

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P271 Use only outdoors or in a well-ventilated area.

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P284 Wear respiratory protection

P264 Wash hands thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves and clothing to prevent skin contact.

P273 Avoid release to the environment.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P370 + P378 In case of fire: Use Foam, alcohol foam, CO2, dry chemical for extinction.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P312 If inhaled, Call a POISON CENTER or doctor/physician if you feel unwell.

P314 Get medical advice/attention if you feel unwell

P302 + P352 IF ON SKIN: wash with plenty of soap and water

P312 Call a POISON CENTER or doctor/physician if you feel unwell

P361+P364 Take off immediately all contaminated clothing and wash it before reuse

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P342 + P311 IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 IF eye irritation persists: Get medical advice/attention.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P233 Keep container tightly closed.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2 FLAMMIBILITY: 3 REACTIVITY: 1 PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS

EYES:

Can cause severe irritation, redness, tearing or blurred vision as well as corneal opacity and conjunctivitis.

SKIN:

May cause irritation, defatting, and dermatitis.

SKIN ABSORPTION:

Can cause reddening, swelling, rash, scaling or blistering. Overexposure may cause sensitization resulting in reaction to contact of small amounts.

INGESTION:

Can cause gastrointestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal. Can cause corrosive action to mucous membranes and digestive tracts.

INHALATION health risks and symptoms of exposure:

Can cause nausea and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, and possible unconsciousness.

Burning sensation to mucous membranes, shortness of breath and flu like symptoms may occur.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Can cause sensitization by exposure through contact or high concentrations of vapor. Over-exposure to this material can cause cardiac abnormalities. Overexposure can possibly cause anemia. Liver abnormalities, kidney damage or eye damage. May cause asthma or other respiratory disorders, bronchitis, emphysema, hyperactivity and eczema.

Chronic Inhalation: as a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma), which will cause them to react to a later exposure to isocyanate at levels well below the TLV or MGL. These symptoms, which include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed up to several hours after exposure. Similar to many nonspecific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in several years. Chronic overexposure to isocyanates has been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may either be temporary or permanent.

Acute skin Contact: Isocyanates react with the skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling, or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove.

Chronic Skin contact: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Respiratory conditions or other allergic response.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: YES

Product may contain ethyl benzene as a component of xylene (IARC 2B)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
Hopolymer of HDI	28182-81-2	1 mg/m3	NONE	NONE	60-100
*Xylene	1330-20-7	100 PPM	100 PPM	150 PPM	12
*Ethyl benzene (as a component of xylene)	100-41-4	100ppm	100ppm	125ppm	<2%
n-Butyl Acetate	123-86-4	150 PPM	150 PPM	200 PPM	7-13
*Hexamethylene Diisocyanate (HDI)	822-06-0	NONE	.005 PPM	NONE	<1%

*Indicates toxic chemical (s) subject to the reporting requirements of section 313 Title III and of 40 CFR 372. XYLENE ACGIH STEL= 150PPM.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

EYES:

Flush eyes with water for at least fifteen minutes and consult a physician.

SKIN:

For extreme exposure use a safety shower immediately. Wash affected area with soap and water and remove contaminated clothing promptly.

INGESTION:

Do not induce vomiting. Keep person warm and consult a physician immediately. Give 1-2 cups of milk or water to drink.

INHALATION:

Remove victim to fresh air area and administer oxygen if necessary. Obtain medical assistance, asthmatic type symptoms may occur immediately or be delayed for several hours. Treatment is symptomatic.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% BY VOLUME)

UPPER: not available
LOWER: not available

FLASH POINT: 91F

METHOD USED:

Seta Flash

EXTINGUISHING MEDIA:

Foam, alcohol foam, CO2, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Presence of solvents in product may require grounding. Remove all sources of ignition.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

If fire occurs, solvents may produce excessive pressure. Sealed drums may rupture and ignite. Vapors are heavier than air and may travel along the ground and ignite by any source of ignition. During a fire, HDI vapors and other toxic gasses may be evolved. Containers may burst if contaminated with water. Vapor flashback to source is possible.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear respirator and protective clothing. Remove all sources of ignitions. Remove excess with spark proof equipment, and the remainder with an absorbent such as clay and place in disposal containers. Contained air respirator may be necessary.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in cool dry place, seal all partially used containers. Wash with soap and water before eating, drinking, smoking, or using the toilet facilities. Mixed materials contain the hazards of all the components, therefore, read the MSDS's of all the components prior to using material. Properly label all containers. Keep material away from all sources of ignition.

OTHER PRECAUTIONS:

Avoid all skin contact. Avoid breathing vapors generated from the material. Observe conditions of good general hygiene and safe working practices. Contaminated leather articles cannot be cleaned and must be discarded if contaminated with this product. Wash all contaminated clothing prior to the reuse thereof. Wear appropriate safety equipment and respirator at all times when ventilation is not sufficient to control vapors. Observe OSHA regulations for respirator use (29 CFR 1910.134). When spraying material avoid exposure to all mists generated by using air supplied respirator.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Use a NIOSH approved respirator as required to prevent over-exposure to vapor in accordance with 29 CFR 1910.134. Engineering or administrative measures should be taken to reduce the risk and exposure. Use a positive pressure supplied air respirator when exceeding TLV's or if HDI Monomer concentrations exceed acceptable limits or when spraying material.

VENTILATION :

Exhaust ventilation sufficient to keep airborne concentrations of HDI below their TLV and MGL maximum. Refer to Patty's Industrial Hygiene and Toxicology- Volume 1 (3rd edition) Chapter 17 and Volume III (1st edition) Chapter 3 for details.

PROTECTIVE GLOVES:

Impervious gloves – neoprene or rubber.

EYE PROTECTION:

Splash goggles or glasses with side shields. Do not wear contact lenses when using this product.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.

WORK HYGIENIC PRACTICES:

Observe good general hygienic practices.

SEE SECTION THREE FOR OCCUPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Pale yellow liquids with solvent odor

BOILING POINT OR RANGE: 279 ° F

VAPOR DENSITY (AIR = 1): not available

SPECIFIC GRAVITY (H₂O = 1): 1.1

EVAPORATION RATE: not available

SOLUBILITY IN WATER: negligible

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

stable

CONDITIONS TO AVOID (STABILITY):

Avoid excessive heat or open flames as well as all sources of ignition such as sparks, heaters, static discharges, etc.

INCOMPATIBILITY (MATERIAL TO AVOID):

Avoid water, amines, strong bases, alcohols, metal compounds, and surface active compounds.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

May form toxic chemicals, carbon dioxide carbon monoxide, oxides of nitrogen, HCN and HDI.

HAZARDOUS POLYMERIZATION:

Moisture or materials that react with isocyanates and temperatures above 400 degrees F may cause polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

Product: Acute Oral Toxicity LD50 >5000 mg/kg (rat) (estimated value)

Acute Inhalation Toxicity LC50 390-453 mg/m3, 4h (rat)

Acute Dermal Toxicity LD50 >5000 mg/kg (rabbit)

Skin Irritation, rabbit, Draize, slightly irritating

Eye Irritation, rabbit, Draize, slightly irritating

Sensitization: Dermal – Sensitizer (Guinea Pig, Maximization Test). Dermal – Non-Sensitizer (Guinea Pig, Buehler).

Sensitization Inhalation – Non-sensitizer (Guinea Pig)

Repeated Dose Toxicity: 3 wks, inhalation NOAEL: 3.7-4.3 mg/m3 (rat)

Repeated Dose Toxicity: 90 d, inhalation NOAEL: 3.3-3.4 mg/m3 (rat)

Repeated Dose toxicity: Irritation to lungs and nasal cavity

Mutagenicity: Genetic Toxicity in Vitro, Ames: negative (salmonell typhimurium, metabolic Activation: with/without)

COMPONENT n-Butyl Acetate: Acute oral LD50 > 5000 mg/kg (rat), Acute Inhalation Toxicity: LC50 > 23.4 mg/l, 4h (rat), Acute Dermal Toxicity LD50 > 5000 mg/kg (rabbit), Skin Irritation Guinea pig Acute Dermal Irritation exposure time 24h – Non-irritating, Skin Irritation Human patch test exposure time 48h – Non-irritating, Eye Irritation rabbit Draize exposure time 24h – slightly irritating, Sensitization dermal – non-sensitizing (guinea pig, human – maximization test). Repeated Dose Toxicity – 13 weeks inhalation NOAEL: 500 ppm (rat). Mutagenicity Genetic Toxicity in Vitro: Ames negative (Salmonella typhimurium, Metabolic Activation: with/without).

COMPONENT Xylene: Inhalation LC50 26800ppm, Skin LD50 2000 mg/kg, Ingestion LD50 4.3 g/kg. Exposure may effect skin, eye, liver, kidney, nervous system, respiratory system and lungs. High concentrations may lead to nervous system effects. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Aspiration into lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal. Xylene may contain ethyl benzene.. Ethyl benzene has shown limited evidence of a carcinogenic effect.

COMPONENT Ethyl Benzene: Acute Oral toxicity LD50: ca. 3500 mg/kg (rat); Acute inhalation LC50: 17.2 mg/l 4h (rat); Acute Dermal Toxicity: 17,800 mg/kg (rabbit); Skin Irritation rabbit Draize exposure time 24h – slightly irritating. Eye Irritation rabbit Draize – severely irritating. Sensitization dermal (human patch test) non-sensitizer. Repeated Dose toxicity 28 days inhalation NOAEL: 3.4 mg/l (rabbit). Mutagenicity Genetic Toxicity in Vitro: Ames: Negative (salmonella typhimurium, metabolic activation with/without). Carcinogenicity: Ethyl benzene was tested by inhalation exposure in mice and rats. In mice, there was an increased incidence of lung adenomas in males and liver adenomas in females. In male rats, there was an increased incidence of renal tubule adenomas and carcinomas. Two Studies of workers potentially exposed to ethyl benzene in a production plant and a styrene polymerization plant, showed no excess cancer incidence and no excess cancer mortality during a 15 year follow-up. Toxicity to Reproduction/Fertility: Inhalation (monkey, male) Reproductive effects have been observed in animal studies, In a generation study, inhalation (rat/female) NOAEL (parental): 100ppm NOAEL (F2): 100ppm. Developmental Toxicity/Teratogenicity rat, female, inhalation, gestation, daily, NOAEL (teratogenicity): 100ppm (maternal): 100ppm. Teratogenic effects seen only with maternal toxicity., Fetotoxicity seen only with maternal toxicity. Rabbit, female, inhalation, gestation, daily, NOAEL (teratogenicity) < 1000 mg/m3, NOAEL (maternal) < 1000 mg/m3.

SECTION 12: ECOLOGICAL INFORMATION

SAFETY DATA SHEET

PRODUCT CODE: 322x Clear

COMONENT Homopolymer of HDI: Biodegradation: 0%, Exposure time: 28 days, not readily biodegradable. Acute and Prolonged Toxicity to fish LC0 > 100 mg/l (zebra fish, 96 h). Acute toxicity to aquatic invertebrates: EC0 > 100 mg/l (water flea, 48 h). Toxicity to aquatic plants EC50 > 1000 mg/l (green algae, 72 h). Toxicity to Microorganisms: EC50 > 1000 mg/l (activated sludge microorganisms, 3 h).

COMPONENT n-Butyl Acetate: Biodegradation: aerobic, 98%, exposure time 28 days. Biochemical oxygen demand (BOD) 1020 mg/g. Chemical Oxygen demand (COD) 2,320 mg/g. Bioaccumulation: ca. 4-14 BCF. Acute and Prolonged Toxicity to Fish LC50: 18 mg/l (fathead minnow, 96 h). Acute Toxicity to Aquatic Invertebrate EC50: 72.8 mg/l (water flea, 48 h). Toxicity to aquatic plants EC50: 670 mg/l, end point: growth (Cryptomonad, 48 h). Toxicity to Microorganisms EC50: 959 mg/l (Pseudomonas putida, 48 h).

COMPONENT Xylene: Acute Toxicity: Fish: Toxic 1 < LCECIC50 < 10mg/l, Aquatic Invertebrates: Toxic 1 < LC/EC/IC50 <10mg/l, Algae: Toxic 1 < LC/EC/IC50 <10 mg/l. Mobility – floats on water. If it enters the soil it will be highly mobile and may contaminate groundwater. Oxidises rapidly by photo-chemical reactions in air.

COMPONENT Ethyl Benzene: Biodegradation, Aerobic, 50%, Exposure time 28 days. Biochemical Oxygen demand (BOD) 5 days, 2.8% and 35 days, 1780 mg/g. Bioaccumulation: Cyprinus carpio (Carp), 15 BCF. Acute and Prolonged Toxicity to Fish LC50: 12.1 mg/l (fathead minnow, 96 h). Acute Toxicity to Aquatic Invertebrates EC50: 1.8-2.9 mg/l (water flea, 48 h). Toxicity to Aquatic Plants EC50: 4.6 mg/l (green algae, 72 h). Toxicity to microorganisms EC50: 130 mg/l (activated sludge microorganisms, 48 hr).

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

Dispose of the material in a waste disposal site in accordance with local, state, and federal laws.

SECTION 14: Transport Information

DOT: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, BUTYL ACETATE), 3, PG III

IMO/IMDG: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, BUTYL ACETATE), 3, PG III

SECTION 15: REGULATORY INFORMATION

Product: OSHA HAZCOM STANDARD RATING: Hazardous. All components on TSCA

Massachusetts, New York, Pennsylvania Right to Know list includes the following components: Homopolymer of HDI CAS# 28182-81-2 @ 60-100%; n-Butyl Acetate CAS# 123-86-4 @ 10-20%; Xylene CAS# 1330-20-7 @ 7-13%; Ethyl Benzene CAS# 100-41-4 @ 1-5%.

Massachusetts, New York, Pennsylvania Special hazardous Substance includes the following components: n-Butyl Acetate CAS# 123-86-4 @ 10-20%; Xylene CAS# 1330-20-7 @ 7-13%; Ethyl Benzene CAS# 100-41-4 @ 1-5%; hexamethylene diisocyanate (HDI) CAS# 822-06-0 @ <0.6%.

California Prop 65: This product contains chemicals known to the State of California to be carcinogenic: Ethyl Benzene CAS# 100-41-4 @ 1-5%.

US EPA CERCLA Hazardous Substances (40 CFR 302): n-butyl acetate reportable quantity 5000 lbs

US EPA CERCLA Hazardous Substances (40 CFR 302): Xylene reportable quantity 100 lbs.

US EPA CERCLA Hazardous Substances (40 CFR 302): Ethyl Benzene reportable quantity 1000 lbs.

US EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.5) components, Xylene and Ethyl Benzene.

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**PRODUCT NAME:** ARM322x part A (colors)**PRODUCT CODES:** 322x A**MANUFACTURER:** Armorpoxy Inc.**STREET ADDRESS:** 1260 North Ave**CITY, STATE, ZIP:** Plainfield, NJ 07062**INFORMATION PHONE:** 888-755-7361**EMERGENCY PHONE:** Chemtrec 800-424-9300**FAX PHONE:** (973) 453-8114**PREPARED BY:** Armorpoxy Inc.**DATE REVISED:** 1/22/19**Chemical Name or Class:** polyester polyol solution**SECTION 2: HAZARDS IDENTIFICATION****Hazard Overview**

GHS Classification: Flammable liquid category 3, Specific target organ toxicity – single exposure category 3, Acute oral toxicity category 4, Skin corrosion/irritation category 2, Serious eye irritation category 2A, Acute toxicity inhalation category 4, Acute Toxicity skin category 4, Specific target organ toxicity repeated exposure category 2 Acute hazard to aquatic environment category 3

GHS Label Elements and Precautionary Statements:**Label Elements:** Flame, Health Hazard, Exclamation Mark**Hazard Statements:**

Warning: Flammable liquid and vapor.

Warning: May cause respiratory irritation

Warning: Harmful if swallowed

Warning: Causes skin irritation

Warning: Causes serious eye irritation

Warning: Harmful if inhaled

Warning: Harmful in contact with skin.

Warning: May cause damage to organs (auditory system) through prolonged or repeated exposure.

Harmful to aquatic life.

Precautionary statements:

P102 Keep out of reach of children.

P103 Read label before use

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P271 Use only outdoors or in a well-ventilated area.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P370 + P378 In case of fire: Use Foam, alcohol foam, CO2, dry chemical, water fog for extinction.

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P312 If Inhaled, Call a POISON CENTER or doctor/physician if you feel unwell.

P301 + P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

P330 Rinse mouth.

P302 + P352 IF ON SKIN: wash with plenty of soap and water.

P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SAFETY DATA SHEET

PRODUCT CODE: 322x

P337 + P313 IF eye irritation persists: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P233 Keep container tightly closed.

Disposal:

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

Other Non-classifiable potential hazards

Carcinogenicity category 2, (Ethyl benzene at less than 17% in a study done by the NTP was determined to not be carcinogenic.)

HMIS HAZARD CLASSIFICATION

HEALTH: 2 FLAMMIBILITY: 3 REACTIVITY: 0 PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS

EYES:

May cause corneal damage if left untreated which is slow to heal but usually reversible.

SKIN:

May cause irritation or allergic response. May cause defatting, dryness, cracking, rash or redness or dermatitis.

SKIN ABSORPTION:

Solvents can penetrate the skin causing effects similar to those for acute inhalation symptoms.

INGESTION:

Can cause irritation to the digestive tract including sore throat, abdominal pain, nausea, vomiting and diarrhea.

Vomiting may Cause Aspiration of solvents resulting in chemical pneumonitis.

INHALATION health risks and symptoms of exposure:

Solvent vapors are irritating to the eyes, nose and throat and respiratory tract resulting in dryness of the throat and tightness in the chest. Other symptoms include headache, nausea, narcosis, fatigue and loss of appetite.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Chronic Exposure to organic solvents has been associated with various neurotoxic effects including brain damage, nervous system damage or death. Prolonged vapor contact may cause conjunctivitis. Chronic inhalation may also include loss of memory, loss of intellectual ability and loss of coordination. Corneal damage is possible but usually reversible. Repeated Exposure to solvents can cause anemia, liver abnormalities, kidney damage or cardiac abnormalities.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Respiratory conditions or other allergic response.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: yes

ADDITIONAL CARCINOGENICITY INFORMATION:

May Contain Ethyl Benzene (IARC possible carcinogen). Titanium Dioxide is listed by IARC as possibly carcinogenic to humans (group 2B). Some colors may contain carbon black - Explanation Of Carcinogenicity for carbon: IARC MONOGRAPHS ON EVALUATION OF CARCINOGENIC RISK OF CHEMICALS TO MAN, VOL 65, PG 149, 1996: GROUP 2B

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
Propylene Glycol Monomethyl Ether Acetate	108-65-6	50ppm	none	none	3-7
Saturated Polyester Polyol (non-hazardous)	unknown	none	none	none	15-40
POLYESTER POLYOL	NJTSRNS0001C	NONE	NONE	NONE	10-30
Siloxanes and silicones, di-me reactions products with silica (non-hazardous)	67762-90-7	none	none	none	0.1-1
siloxanes and silicones, di-methyl (non-hazardous)	63148-62-9	none	none	none	0.1-1
*Xylene	1330-20-7	100 ppm	100 ppm	150 ppm	8
2,6-Dimethyl-4-Heptanone	108-83-8	25 ppm	25 ppm	none	0.1-1
*Ethyl benzene	100-41-4	100 ppm	100 ppm	125 ppm	<0.5
polyalkylene glycol	9038-95-3	none	none	none	0.1-1
4,6-dimethyl-2-heptanone	19549-80-5	none	none	none	0.1-1
Dibutyltin Dilurate	77-58-7	0.1mg / m3	0.1mg / m3	0.1mg / m3	0.1-1
Cellulose Acetate Butyrate	9004-36-8	none	none	none	0.1-1
Methyl N-Amyl Ketone	110-43-0	100 ppm	50 ppm	none	7-13
Ethyl 3-Ethoxypropionate	763-69-9	none	none	none	3-7
Additive	NJTSRN 800963-5023	none	none	none	0.1-1
Colors May Contain @ 10-30%:					
Titanium Dioxide	13463-67-7	10mg/m3	10mg/m3	5mg/m3	
*CARBON	1333-86-4	3.5PPM	3.4PPM	NONE	<1.0

SAFETY DATA SHEET

PRODUCT CODE: 322x

Acrylic polymers (non-hazardous)	trade secret	NONE	NONE	NONE
C.I. Pigment violet 19	1047-16-1	NONE	NONE	NONE
Barium Sulfate	7727-43-7	5 mg/m3	10 mg/m3	NONE
zinc salt of alkyl naphthalene sulfonic acid	undisclosed	NONE	NONE	NONE
solvent naptha	64742-88-7	NONE	NONE	NONE
polyamine polyester polymer	(non hazardous)	NONE	NONE	NONE
C.I. Pigment blue 15	147-14-8	NONE	NONE	NONE
C.I. Pigment Blue	25869-00-5	NONE	NONE	NONE
C11-C13 isoparaffin	64741-65-7	NONE	NONE	NONE
C.I. Pigment green 17	1308-38-9	NONE	NONE	NONE
Alkyl polyether phosphate ester	trade secret	NONE	NONE	NONE
C.I. Pigment green 7	1328-53-6	NONE	NONE	NONE
C.I. Pigment green 36	14302-13-7	NONE	NONE	NONE
C.I. Pigment Yellow	4531-49-1	NONE	NONE	NONE
C.I. Pigment Yellow	5567-15-7	NONE	NONE	NONE
C.I. Pigment yellow 42	51274-00-1	NONE	NONE	NONE
pigment orange	15793-73-4	NONE	NONE	NONE
C.I. Pigment red 101	1309-37-1	NONE	NONE	NONE
C.I. Pigment red 3	2425-85-6	NONE	NONE	NONE
aluminum silicate dehydrate	1332-58-7	NONE	NONE	NONE
mineral spirits	8052-41-3	100ppm	100ppm	NONE
C.I. Pigment red 187	59487-23-9	NONE	NONE	NONE

SECTION 3 NOTES: *Indicates toxic chemical(s) subject to reporting requirements of section 313 of Title III and of 40 CFR 372. All components are on the TSCA list. Xylene Stel= 150PPM (ACGIH) Methyl N-Amyl Ketone Stel (ACGIH)= 100PPM. Ethyl 3-Ethoxypropionate: USA country specific exposure limits have not been established or are not applicable. Chemical company exposure limit (TLV) 50ppm and (STEL) 100ppm are recommended. Canada, Ontario OEL (Ministry of Labor – Control of Exposure) TWA 50ppm.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4 FIRST AID MEASURES

EYES:

Flush eyes with water for at least fifteen minutes and consult a physician.

SKIN:

Wash affected area with soap and water and remove contaminated clothing promptly.

INGESTION:

Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.

INHALATION:

Remove victim to fresh air area and administer oxygen if necessary. Consult a physician if necessary.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% BY VOLUME)

UPPER: not available
LOWER: not available

FLASH POINT: 100F

METHOD USED:

Seta Flash

EXTINGUISHING MEDIA:

Foam, alcohol foam, CO2, dry chemical, water fog.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Cool all fire exposed containers with water. Minimize contact with material.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Closed containers may explode when exposed to extreme heat. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source which can result in flash back to the source of the vapors. Toxic vapors could be evolved from the combustion of this material.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition and ventilate the area. Wear appropriate protective equipment such as vapor cartridge or air supplied respirator when necessary. Dike and absorb the material with absorbent such as clay and place in disposal containers.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

SAFETY DATA SHEET

PRODUCT CODE: 322x

Store in cool dry area. Seal all partially used containers. Wash with soap and water before eating, drinking, smoking or using the toilet facilities. Mixed materials contain the hazards of all the components, therefore, read the MSDS's of all the components prior to using the material. Properly label all containers.

OTHER PRECAUTIONS:

Avoid all skin contact. Avoid breathing vapors generated from the material. Observe conditions of good general hygiene and safe working practices. Contaminated leather articles cannot be cleaned and must be discarded if contaminated with this product. Wash all contaminated clothing prior to the reuse thereof. Supply appropriate ventilation or engineering controls prior to using this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Use a NIOSH approved respirator as required to prevent over-exposure to vapor in accordance with 29 CFR 1910.134. Use a positive pressure respirator when airborne concentrations are not known or if exceeding TLV's or if working in a confined space. Always consider the hazards from all components in the mixed material state.

VENTILATION :

Exhaust ventilation sufficient to keep the airborne concentrations of the solvents and other hazardous materials below the toxic level concentrations.

PROTECTIVE GLOVES:

Impervious gloves – neoprene or rubber.

EYE PROTECTION:

Splash goggles or glasses with side shields. If the environment warrants, a full face shield should be employed.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.

WORK HYGIENIC PRACTICES:

Observe good general hygienic practices.

SEE SECTION THREE FOR OCCPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: low viscosity liquid with ketone solvent odor.

BOILING POINT OR RANGE: 279 to 375F

VAPOR DENSITY (AIR = 1): not available

SPECIFIC GRAVITY (H₂O = 1): 1.2 typical (varies by color)

EVAPORATION RATE: not available

SOLUBILITY IN WATER: negligible

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

stable

CONDITIONS TO AVOID (STABILITY):

Avoid excessive heat or open flames. This material should not be mixed with phosphorous containing material or oxidizers.

INCOMPATIBILITY (MATERIAL TO AVOID):

Can react Vigorously with strong oxidizing agents and phosphorous containing materials.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION:

Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component Propylene Glycol Monomethyl Ether Acetate CAS# 108-65-6: LD50 Oral (rat) 8,532 mg/kg. LD50 Dermal (rabbit) >5000 mg/kg. LC0 Inhalation 6 hr (rat = 4345 ppm). Eye irritation, slightly Irritating. Dermal: non-sensitizer (guinea pig, maximization test). Repeated Dose Toxicity: 14 days, inhalation – NOAEL: 300ppm, LOAEL: 1000ppm (rat. Mutagenicity in vitro: Ames – negative (salmonella typhimurium, metabolic activation; with/without) Developmental Toxicity/Teratogenicity: Rat, female, inhalation, 6hrs/day 7 days a week; NOAEL (teratogenicity) . 4000 ppm – No Teratogenic effects observed at doses tested.

SAFETY DATA SHEET

PRODUCT CODE: 322x

Component CAS# 9038-95-3: Acute oral toxicity LD50 = 5370 mg/kg (rat); Acute dermal toxicity LD50 = 21000 mg/kg (rabbit); Acute inhalation toxicity LC50 = 4670 ppm (rat); Skin irritation – slight irritation (rabbit); Eye irritation – mild irritation (rabbit)

Component CAS# 108-83-6: Acute oral toxicity LD50 = 5800 mg/kg (rat); Acute dermal toxicity LD50 = 16000 mg/kg (rabbit); Acute inhalation toxicity LC50 = 2000 ppm (rat); Skin irritation – slight irritation (rabbit); Eye irritation – mild eye irritation (rabbit)

Component Xylene: Inhalation LC50 26800ppm, Skin LD50 2000 mg/kg, Ingestion LD50 4.3 g/kg. Exposure may effect skin, eye, liver, kidney, nervous system, respiratory system and lungs. High concentrations may lead to nervous system effects. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Xylene may contain ethyl benzene. Ethyl benzene has shown limited evidence of a carcinogenic effect.

Component Dibutyltin Dilurate CAS# 77-58-7: ACUTE ORAL TOX (LD50,RAT) 3200.00 MG/KG. ACUTE DERMAL TOX (LD50,RABBIT) >2000 MG/KG (NO DEATHS). ACUTE INHAL TOX (LC50, RAT) >8.10 MG/L/1 HR. AMES TEST: NEG (ACTIVATED & NONACTIVATED) INDUST CHEMS SUCH AS THIS MATL W/ACUTE TOX VALUES SHOWN & WHOSE VAPS/MISTS ARE NOT LIKELY TO BE ENCOUNTERED BY HUMANS WHEN USED IN ANY REASONABLY FORESEEABLE MANNER WOULD NOT REQ TOXIC LBL ACCORD TO U.S. DOMESTIC & INTERNATIONAL TRANSPORT REQS. IRRITANTS DATA: SEV IRRITANT TO EYES OF RABBIT. MOD IRRITANT TO SKIN OF RABBIT.

Component Cellulose Acetate Butyrate Ester CAS# 9004-36-8: Oral LD-50: (Rat): > 3,200 mg/kg (highest dose tested). Dermal LD-50: (Guinea Pig): > 1,000 mg/kg (highest dose tested). Skin Corrosion: (Guinea Pig, 24 h): slight. Skin sensitization: not a sensitizer.

Component CAS# 110-43-0: Oral LD 50 (rat): 1600 mg/kg; Oral LD50 (mouse) 730 mg/kg; Inhalation LC50 (rat) 2000-4000 ppm, 4 hr. Dermal LD50 (rabbit) 10206 mg/kg; Dermal LD50 (guinea pig) >16200 mg/kg; Skin irritation (Rabbit) – slight to moderate; Eye irritation (rabbit) slight; Skin sensitization (human) none

Component 763-69-9: Acute oral toxicity LD50 = 5000 mg/kg (rat); acute dermal toxicity LD50 = 10000 mg/kg (rabbit). Component is a skin irritant.

Component additive NJTSRN 800963-5023: Acute oral toxicity: LD50 rat>8,000,000 mg/kg; skin irritation rabbit – no skin irritation

Component Titanium Dioxide: Inhalation 4 h LC50 > 6.82 mg/l; Oral LD50 > 5000 mg/kg, rat; In February 2006, IARC listed titanium dioxide as possibly carcinogenic to humans Group 2B.

Component Carbon: IARC lists carbon as a possible human carcinogen Category 2B. LD50 – Intravenous, mouse = 440 mg/kg

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.

Component data:

Component Propylene Glycol Monomethyl Ether Acetate CAS# 108-65-6: Biodegradation: aerobic, 100%, exposure time: 8 days. Acute and Prolonged Toxicity to fish LC50: 161 mg/l (fathead minnow), 96 hr. Acute Toxicity to Aquatic Invertebrates: EC50: 408 mg/l (water flea), 48 hr.

Component Xylene: Acute Toxicity: Fish: Toxic 1 < LCECIC50 < 10mg/l, Aquatic Invertebrates: Toxic 1 < LC/EC/IC50 <10mg/l, Algae: Toxic 1 < LC/EC/IC50 <10 mg/l. Mobility – floats on water. If it enters the soil it will be highly mobile and may contaminate groundwater. Oxidises rapidly by photo-chemical reactions in air.

Component CAS# 110-43-0: BOD-5: 1770 mg/kg; BOD-20: 2000 mg/kg; COD: 2420 mg/kg. Acute Aquatic Effects: 96 hr LC50 (fathead minnow) 131 mg/l and 48 hr EC50 (daphnia) >90 mg/l (highest concentration tested)

Component 763-69-9: Possibly hazardous short term degradation products are not likely, however long term degradation products may arise. The product itself and its products of degradation are not toxic.

Component Titanium Dioxide: Pimephales promelas (fathead minnow) < 1000 mg/l @ 96h LC50; Pseudokirchneriella subcapitata (green algae) 61 mg/l @ 72h EC50; Daphnia magna (water flea) > 1000 mg/l @ 48h EC50

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

Dispose of the material in a waste disposal site in accordance with local, state, and federal laws. Empty containers should be handled with care due to product residue and possible vapor from organic solvents. Never use a gas or electric torch to cut the drums.

SECTION 14: Transport Information

DOT: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, ETHYL BENZENE), 3, PG III

IMO/IMDG: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, ETHYL BENZENE), 3, PG III

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component Saturated Polyester Polyol (non-hazardous): Europe Inventory: Component is listed or exempted. Canada Inventory: Component is listed or exempted. Canadian NPRI not required. United States Inventory: Component is listed (TSCA 8b) or exempted.

Component Propylene Glycol Monomethyl Ether Acetate CAS# 108-65-6: Listed on TSCA and DSL Component listed on the Pennsylvania, New Jersey and Massachusetts Right to know lists.

Component Siloxanes and silicones, di-me reactions products with silica: Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

Component siloxanes and silicones, di-methyl: Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

Component CAS# 108-83-6: Pennsylvania, Massachusetts and New Jersey Right to Know, (On TSCA, DSL lists)

Component CAS# 9038-95-3 Pennsylvania and New Jersey Right to know (On TSCA, DSL Lists)

SAFETY DATA SHEET

PRODUCT CODE: 322x

Component Xylene: Xylene contains EPCRA section 313 chemicals subject to the reporting requirements of the emergency planning and community right to know act of 1968. (Maximum wt % for components of xylene are: M-Xylene CAS# 108-38-3 is 46%, P-Xylene CAS# 106-42-3 is 20%, Ethyl Benzene CAS# 100-41-4 is 19%, O-Xylene CAS# 95-47-6 is 16%.. Xylene and its components are on the California Proposition 65 list for developmental toxicity, Reproductive toxicity and carcinogen list. Ingredients are on the TSCA list, DSL Canada, AICS, China, EINECS, ENCS, Korea, New Zealand, Philippines inventory lists and on the Massachusetts, New Jersey, Pennsylvania right to know lists Ethyl Benzene a component of xylene has been designated by IARC as a possible carcinogen to humans based on increased tumor incidence in laboratory animals. risk phrases R10 Flammable R20/21 Harmful by inhalation and in contact with skin, R38 irritating to skin, S25 Avoid contact with eyes.

Component Dibutyltin Dilaurate CAS# 77-58-7: Sara Title III Information: TOXIC SUBSTANCES CONTROL ACT (TSCA): ALL COMPONENTS ARE INCL IN EPA TOXIC SUBSTANCES CTL ACT (TSCA) CHEM SUBSTANCE INVENTORY. OSHA HAZARD COMMUNICATION STD (29CFR1910.1200) HAZARD CLASS(ES): IRRITANT.KIDNEY TOXIN. EPA SARA TITLE III SECTION 312 (40CFR370) HAZARD CLASS. IMMEDIATE HEALTH HAZARD. EPA SARA TITLE III 313 (40CFR372) TOXIC CHEMICALS "DE MINIMIS" LEVEL ARE NONE. Federal Regulatory Information: CANADA DSL-INCL ON INVENTORY. HAZARD CLASSIFICATION-CLASS D DIVISION 2B.(EEC). EINECS /ELINCS MASTER INVENTORY-INCLUDED ON INVENTORY. EEC SYMBOL-HARMFUL (XN). EEC RISK (R) PHRASES-IRRITATING TO EYES & SKIN (R36/38). HARMFUL BY INHAL (R20). EEC SFTY PHRASES-IN CASE OF CONT W/EYES, RINSE IMMEDIATELY WITH WATER & SEEK MEDICAL ADVICE (S26). AUSTRALIA-AICS-INCLUDED ON INVENTORY. State Regulatory Information: STATE REGS: PROPOSITION 65 SUBSTANCES (COMPONENT(S) KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER AND/OR REPRODUCTIVE TOXICITY & SUBJECT TO WARNING & DISCHARGE REQUIREMENTS UNDER "SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986"):NONE.

Component Cellulose Acetate Butyrate Ester CAS# 9004-36-8: WHMIS (Canada) Status: noncontrolled, OSHA: nonhazardous, TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing. DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing. AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS. MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification. ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act. Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS. Inventory of Existing Chemical Substances in China: All components are listed on the Inventory of Existing Chemical Substances in China (IECSC) or are covered under a polymer exemption.

Component CAS# 110-43-0: On DSL and TSCA, EINECS, AICS, MITI and ECL lists.

Component 763-69-9: is on the TSCA EINECS and DSL Lists

Component additive NJTSRN 800963-5023: on TSCA List. Not a California Prop 65 chemical

Component Polyester Polyol NJTSRNS0001C: All components of this product are on the Canada DSL list and TSCA list.

Component Titanium Dioxide: Contains Proposition 65 Chemicals, is on the PA Hazardous substance list, is on the NJ right to know Regulated chemical List.

Titanium Dioxide is on inventory or in compliance with EINECS, TSCA, AICS, DSL, ENCS (JP), KECI (KR), PICCS (PH) and INV (CN).

Component Carbon: Contains Proposition 65 Chemicals .Carbon: is listed on TSCA and DSL Canada

Component acrylic polymers: Listed on TSCA and DSL.

Component Barium Sulfate: : Listed on TSCA and DSL.

Component C.I. Pigment violet 19 CAS# 1047-16-1: Listed on TSCA and DSL.

Component zinc salt of alkyl naphthalene sulfonic acid: Listed on TSCA and DSL.

Component solvent naphtha CAS# 64742-88-7: Listed on TSCA and DSL.

Component polyamine polyester polymer (non hazardous): Listed on TSCA and DSL.

Component C.I. Pigment blue 15 CAS# 147-14-8: Listed on TSCA and DSL.

Component C.I. Pigment blue CAS# 25869-00-5: Listed on TSCA and DSL.

Component CAS# 164741-65-7: Listed on TSCA and DSL.

Component C.I. Pigment green 17 CAS# 1308-38-9: Listed on TSCA and DSL.

Component Alkyl polyether phosphate ester-trade secret: Listed on TSCA and DSL

Component C.I. Pigment green CAS# 1328-53-6: Listed on TSCA and DSL.

Component C.I. Pigment green 36 CAS# 14302-13-7: : Listed on TSCA and DSL.

Component CAS# 4531-49-1: Listed on TSCA and DSL

Component CAS# 5567-15-7: Listed on TSCA and DSL. Listed on the Pennsylvania, New Jersey right to know lists

Component C.I. Pigment yellow 42 CAS# 51274-00-1 Listed on TSCA and DSL.

Component CAS# 15793-73-4: Listed on TSCA and DSL. Listed on the Pennsylvania, New Jersey right to know lists

Component C.I. Pigment red 101 CAS# 1309-37-1: Listed on TSCA and DSL.

Component C.I. Pigment red 3 CAS# 2425-85-6: Listed on TSCA and DSL.

Component aluminum silicate dehydrate CAS# 1332-58-7: Listed on TSCA and DSL.

Component mineral spirits CAS# 8052-41-3: Listed on TSCA and DSL.

Component C.I. Pigment red 187 CAS# 59487-23-9: Listed on TSCA and DSL.

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation

SAFETY DATA SHEET

PRODUCT CODE: 322x

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ARM322x part B (colors)
PRODUCT CODES: 322x B

MANUFACTURER: Armorpoxy Inc.
STREET ADDRESS: 1260 North Avenue
CITY, STATE, ZIP: Plainfield, NJ 07062

INFORMATION PHONE: 888-755-7361
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: (973) 453-8114

PREPARED BY: Armorpoxy Inc.

DATE REVISED: 1/22/19

Chemical Name or Class: isocyanate/solvent mixture

SECTION 2: HAZARDS IDENTIFICATION

Hazard Overview

GHS Classification: Flammable liquid category 3, Specific target organ toxicity single exposure category 3, Specific target organ toxicity following repeated exposure category 2, Respiratory sensitization category 1B, Skin corrosion/irritation category 2, skin sensitizer category 1B, Serious eye irritation category 2B, Acute toxicity inhalation category 4, Acute hazard to aquatic environment category 3, Chronic hazards to aquatic environment category 3

GHS Label Elements and Precautionary Statements:

Label Elements: Flame, Health Hazard Exclamation Mark



Hazard Statements:

Warning: Flammable liquid and vapor
Warning: May cause respiratory irritation
Warning: May cause damage to organs (auditory) through prolonged or repeated exposure
Danger: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Warning: Causes skin irritation
Warning: May cause an allergic skin reaction
Warning: Causes serious eye irritation
Warning: Harmful if inhaled
Harmful to aquatic life
Harmful to aquatic life with long lasting effects
Precautionary statements:
P102 Keep out of reach of children.
P103 Read label before use
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P271 Use only outdoors or in a well-ventilated area.
P260 Do not breathe dust/fume/gas/mist/vapours/spray
P284 Wear respiratory protection
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves and clothing to prevent skin contact.
P273 Avoid release to the environment.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P370 + P378 In case of fire: Use Foam, alcohol foam, CO2, dry chemical for extinction.
P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P312 If inhaled, Call a POISON CENTER or doctor/physician if you feel unwell.
P314 Get medical advice/attention if you feel unwell
P302 + P352 IF ON SKIN: wash with plenty of soap and water
P312 Call a POISON CENTER or doctor/physician if you feel unwell
P361+P364 Take off immediately all contaminated clothing and wash it before reuse

SAFETY DATA SHEET

PRODUCT CODE: 322x

P304 + P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P342 + P311 IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 IF eye irritation persists: Get medical advice/attention.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P233 Keep container tightly closed.
Disposal:
P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

HMIS HAZARD CLASSIFICATION

HEALTH: 2 FLAMMIBILITY: 3 REACTIVITY: 1 PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS

EYES:

Can cause severe irritation, redness, tearing or blurred vision as well as corneal opacity and conjunctivitis.

SKIN:

May cause irritation, defatting, and dermatitis.

SKIN ABSORPTION:

Can cause reddening, swelling, rash, scaling or blistering. Overexposure may cause sensitization resulting in reaction to contact of small amounts.

INGESTION:

Can cause gastrointestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal. Can cause corrosive action to mucous membranes and digestive tracts.

INHALATION health risks and symptoms of exposure:

Can cause nausea and respiratory irritation, dizziness, weakness, fatigue, nausea, headache, and possible unconsciousness.

Burning sensation to mucous membranes, shortness of breath and flu like symptoms may occur.

HEALTH HAZARDS (ACUTE AND CHRONIC):

Can cause sensitization by exposure through contact or high concentrations of vapor. Over-exposure to this material can cause cardiac abnormalities. Overexposure can possibly cause anemia. Liver abnormalities, kidney damage or eye damage. May cause asthma or other respiratory disorders, bronchitis, emphysema, hyperactivity and eczema.

Chronic Inhalation: as a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma), which will cause them to react to a later exposure to isocyanate at levels well below the TLV or MGL. These symptoms, which include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed up to several hours after exposure. Similar to many nonspecific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in several years. Chronic overexposure to isocyanates has been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may either be temporary or permanent.

Acute skin Contact: Isocyanates react with the skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling, or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove.

Chronic Skin contact: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Respiratory conditions or other allergic response.

CARCINOGENICITY

OSHA: NO NTP: NO IARC: YES

Product may contain ethyl benzene as a component of xylene (IARC 2B)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
Hopolymer of HDI	28182-81-2	1 mg/m3	NONE	NONE	60-100
*Xylene	1330-20-7	100 PPM	100 PPM	150 PPM	12
*Ethyl benzene (as a component of xylene)	100-41-4	100ppm	100ppm	125ppm	<2%
n-Butyl Acetate	123-86-4	150 PPM	150 PPM	200 PPM	7-13
*Hexamethylene Diisocyanate (HDI)	822-06-0	NONE	.005 PPM	NONE	<1%

*Indicates toxic chemical (s) subject to the reporting requirements of section 313 Title III and of 40 CFR 372. XYLENE ACGIH STEL= 150PPM.

Note: Ingredients listed without percentages, the percentages are considered a trade secret.

SECTION 4: FIRST AID MEASURES

SAFETY DATA SHEET

PRODUCT CODE: 322x

EYES:

Flush eyes with water for at least fifteen minutes and consult a physician.

SKIN:

For extreme exposure use a safety shower immediately. Wash affected area with soap and water and remove contaminated clothing promptly.

INGESTION:

Do not induce vomiting. Keep person warm and consult a physician immediately. Give 1-2 cups of milk or water to drink.

INHALATION:

Remove victim to fresh air area and administer oxygen if necessary. Obtain medical assistance, asthmatic type symptoms may occur immediately or be delayed for several hours. Treatment is symptomatic.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,
(% BY VOLUME)

UPPER: not available
LOWER: not available

FLASH POINT: 91F

METHOD USED:

Seta Flash

EXTINGUISHING MEDIA:

Foam, alcohol foam, CO2, dry chemical

SPECIAL FIRE FIGHTING PROCEDURES:

Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Presence of solvents in product may require grounding. Remove all sources of ignition.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

If fire occurs, solvents may produce excessive pressure. Sealed drums may rupture and ignite. Vapors are heavier than air and may travel along the ground and ignite by any source of ignition. During a fire, HDI vapors and other toxic gasses may be evolved. Containers may burst if contaminated with water. Vapor flashback to source is possible.

SECTION 6: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Wear respirator and protective clothing. Remove all sources of ignitions. Remove excess with spark proof equipment, and the remainder with an absorbent such as clay and place in disposal containers. Contained air respirator may be necessary.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in cool dry place, seal all partially used containers. Wash with soap and water before eating, drinking, smoking, or using the toilet facilities. Mixed materials contain the hazards of all the components, therefore, read the MSDS's of all the components prior to using material. Properly label all containers. Keep material away from all sources of ignition.

OTHER PRECAUTIONS:

Avoid all skin contact. Avoid breathing vapors generated from the material. Observe conditions of good general hygiene and safe working practices. Contaminated leather articles cannot be cleaned and must be discarded if contaminated with this product. Wash all contaminated clothing prior to the reuse thereof. Wear appropriate safety equipment and respirator at all times when ventilation is not sufficient to control vapors. Observe OSHA regulations for respirator use (29 CFR 1910.134). When spraying material avoid exposure to all mists generated by using air supplied respirator.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

Use a NIOSH approved respirator as required to prevent over-exposure to vapor in accordance with 29 CFR 1910.134. Engineering or administrative measures should be taken to reduce the risk and exposure. Use a positive pressure supplied air respirator when exceeding TLV's or if HDI Monomer concentrations exceed acceptable limits or when spraying material.

VENTILATION :

Exhaust ventilation sufficient to keep airborne concentrations of HDI below their TLV and MGL maximum. Refer to Patty's Industrial Hygiene and Toxicology- Volume 1 (3rd edition) Chapter 17 and Volume III (1st edition) Chapter 3 for details.

PROTECTIVE GLOVES:

Impervious gloves – neoprene or rubber.

EYE PROTECTION:

Splash goggles or glasses with side shields. Do not wear contact lenses when using this product.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.

WORK HYGIENIC PRACTICES:

Observe good general hygienic practices.

SEE SECTION THREE FOR OCCUPATIONAL EXPOSURE LIMIT VALUES.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Pale yellow liquids with solvent odor

BOILING POINT OR RANGE: 279 ° F

VAPOR DENSITY (AIR = 1): not available

SPECIFIC GRAVITY (H₂O = 1): 1.1

EVAPORATION RATE: not available

SOLUBILITY IN WATER: negligible

Odor Threshold: N/A

pH: N/A

Melting point/freezing point: N/A

Vapor Pressure: N/A

Auto Ignition Temperature: N/A

Partition Coefficient: n-octanol/water: N/A

Decomposition Temperature: N/A

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

stable

CONDITIONS TO AVOID (STABILITY):

Avoid excessive heat or open flames as well as all sources of ignition such as sparks, heaters, static discharges, etc.

INCOMPATIBILITY (MATERIAL TO AVOID):

Avoid water, amines, strong bases, alcohols, metal compounds, and surface active compounds.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

May form toxic chemicals, carbon dioxide carbon monoxide, oxides of nitrogen, HCN and HDI.

HAZARDOUS POLYMERIZATION:

Moisture or materials that react with isocyanates and temperatures above 400 degrees F may cause polymerization.

SECTION 11: TOXICOLOGICAL INFORMATION

Product: Acute Oral Toxicity LD50 >5000 mg/kg (rat) (estimated value)

Acute Inhalation Toxicity LC50 390-453 mg/m3, 4h (rat)

Acute Dermal Toxicity LD50 >5000 mg/kg (rabbit)

Skin Irritation, rabbit, Draize, slightly irritating

Eye Irritation, rabbit, Draize, slightly irritating

Sensitization: Dermal – Sensitizer (Guinea Pig, Maximization Test). Dermal – Non-Sensitizer (Guinea Pig, Buehler).

Sensitization Inhalation – Non-sensitizer (Guinea Pig)

Repeated Dose Toxicity: 3 wks, inhalation NOAEL: 3.7-4.3 mg/m3 (rat)

Repeated Dose Toxicity: 90 d, inhalation NOAEL: 3.3-3.4 mg/m3 (rat)

Repeated Dose toxicity: Irritation to lungs and nasal cavity

Mutagenicity: Genetic Toxicity in Vitro, Ames: negative (salmonell typhimurium, metabolic Activation: with/without)

COMPONENT n-Butyl Acetate: Acute oral LD50 > 5000 mg/kg (rat), Acute Inhalation Toxicity: LC50 > 23.4 mg/l, 4hh (rat), Acute Dermal Toxicity LD50 > 5000 mg/kg (rabbit), Skin Irritation Guinea pig Acute Dermal Irritation exposure time 24h – Non-irritating, Skin Irritation Human patch test exposure time 48h – Non-irritating, Eye Irritation rabbit Draize exposure time 24h – slightly irritating, Sensitization dermal – non-sensitizing (guinea pig, human – maximization test). Repeated Dose Toxicity – 13 weeks inhalation NOAEL: 500 ppm (rat). Mutagenicity Genetic Toxicity in Vitro: Ames negative (Salmonella typhimurium, Metabolic Activation: with/without).

COMPONENT Xylene: Inhalation LC50 26800ppm, Skin LD50 2000 mg/kg, Ingestion LD50 4.3 g/kg. Exposure may effect skin, eye, liver, kidney, nervous system, respiratory system and lungs. High concentrations may lead to nervous system effects. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Aspiration into lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal. Xylene may contain ethyl benzene.. Ethyl benzene has shown limited evidence of a carcinogenic effect.

COMPONENT Ethyl Benzene: Acute Oral toxicity LD50: ca. 3500 mg/kg (rat); Acute inhalation LC50: 17.2 mg/l 4h (rat); Acute Dermal Toxicity: 17,800 mg/kg (rabbit); Skin Irritation rabbit Draize exposure time 24h – slightly irritating. Eye Irritation rabbit Draize – severely irritating. Sensitization dermal (human patch test) non-sensitizer.Repeated Dose toxicity 28 days inhalation NOAEL: 3.4 mg/l (rabbit). Mutagenicity Genetic Toxicity in Vitro: Ames: Negative (salmonella typhimurium, metabolic activation with/without). Carcinogenicity: Ethyl benzene was tested by inhalation exposure in mice and rats. Ibn mice, there was an increased incidence of lung adenomas in males and liver adenomas in females. In male rats, there was an increased incidence of renal tubule adenomas and carcinomas. Two Studies of workers potentially exposed to ethyl benzene in a production plant and a styrene polymerization plant, showed no excess cancer incidence and no excess cancer mortality during a 15 year follow-up. Toxicity to Reproduction/Fertility: Inhalation (monkey, male) Reproductive effects have been observed in animal studies, In a generation study, inhalation (rat/female) NOAEL (parental): 100ppm NOAEL (F2): 100ppm. Developmental Toxicity/Teratogenicity rat, female, inhalation, gestation, daily, NOAEL (teratogenicity): 100ppm (maternal): 100ppm. Tratogenetic effects seen only with maternal toxicity., Fetotoxicity seen only with maternal toxicity. Rabbit, female, inhalation, gestation, daily, NOAEL (teratogenicity) < 1000 mg/m3, NOAEL (maternal) < 1000 mg/m3.

SECTION 12: ECOLOGICAL INFORMATION

SAFETY DATA SHEET

PRODUCT CODE: 322x

COMONENT Homopolymer of HDI: Biodegradation: 0%, Exposure time: 28 days, not readily biodegradable. Acute and Prolonged Toxicity to fish LC0 > 100 mg/l (zebra fish, 96 h). Acute toxicity to aquatic invertebrates: EC0 > 100 mg/l (water flea, 48 h). Toxicity to aquatic plants EC50 > 1000 mg/l (green algae, 72 h). Toxicity to Microorganisms: EC50 > 1000 mg/l (activated sludge microorganisms, 3 h).

COMPONENT n-Butyl Acetate: Biodegradation: aerobic, 98%, exposure time 28 days. Biochemical oxygen demand (BOD) 1020 mg/g. Chemical Oxygen demand (COD) 2,320 mg/g. Bioaccumulation: ca. 4-14 BCF. Acute and Prolonged Toxicity to Fish LC50: 18 mg/l (fathead Minnow, 96 h). Acute Toxicity to Aquatic Invertebrate EC50: 72.8 mg/l (water flea, 48 h). Toxicity to aquatic plants EC50: 670 mg/l, end point: growth (Cryptomonad, 48 h). Toxicity to Microorganisms EC50: 959 mg/l (Pseudomonas putida, 48 h).

COMPONENT Xylene: Acute Toxicity: Fish: Toxic 1 < LCECIC50 < 10mg/l, Aquatic Invertebrates: Toxic 1 < LC/EC/IC50 <10mg/l, Algae: Toxic 1 < LC/EC/IC50 <10 mg/l. Mobility – floats on water. If it enters the soil it will be highly mobile and may contaminate groundwater. Oxidises rapidly by photo-chemical reactions in air.

COMPONENT Ethyl Benzene: Biodegradation, Aerobic, 50%, Exposure time 28 days. Biochemical Oxygen demand (BOD) 5 days, 2.8% and 35 days, 1780 mg/g. Bioaccumulation: Cyprinus carpio (Carp), 15 BCF. Acute and Prolonged Toxicity to Fish LC50: 12.1 mg/l (fathead minnow, 96 h). Acute Toxicity to Aquatic Invertebrates EC50: 1.8-2.9 mg/l (water flea, 48 h). Toxicity to Aquatic Plants EC50: 4.6 mg/l (green algae, 72 h). Toxicity to microorganisms EC50: 130 mg/l (activated sludge microorganisms, 48 hr).

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

Dispose of the material in a waste disposal site in accordance with local, state, and federal laws.

SECTION 14: Transport Information

DOT: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, BUTYL ACETATE), 3, PG III

IMO/IMDG: UN1993, FLAMMABLE LIQUID N.O.S. (CONTAINS XYLENE, BUTYL ACETATE), 3, PG III

SECTION 15: REGULATORY INFORMATION

Product: OSHA HAZCOM STANDARD RATING: Hazardous. All components on TSCA

Massachusetts, New York, Pennsylvania Right to Know list includes the following components: Homopolymer of HDI CAS# 28182-81-2 @ 60-100%; n-Butyl Acetate CAS# 123-86-4 @ 10-20%; Xylene CAS# 1330-20-7 @ 7-13%; Ethyl Benzene CAS# 100-41-4 @ 1-5%.

Massachusetts, New York, Pennsylvania Special hazardous Substance includes the following components: n-Butyl Acetate CAS# 123-86-4 @ 10-20%; Xylene CAS# 1330-20-7 @ 7-13%; Ethyl Benzene CAS# 100-41-4 @ 1-5%; hexamethylene diisocyanate (HDI) CAS# 822-06-0 @ <0.6%.

California Prop 65: This product contains chemicals known to the State of California to be carcinogenic: Ethyl Benzene CAS# 100-41-4 @ 1-5%.

US EPA CERCLA Hazardous Substances (40 CFR 302): n-butyl acetate reportable quantity 5000 lbs

US EPA CERCLA Hazardous Substances (40 CFR 302): Xylene reportable quantity 100 lbs.

US EPA CERCLA Hazardous Substances (40 CFR 302): Ethyl Benzene reportable quantity 1000 lbs.

US EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.5) components, Xylene and Ethyl Benzene.

SECTION 16: OTHER INFORMATION

DISCLAIMER: The information Contained herein is based on the data available and is believed to be accurate, However, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

N/A = Not Available

See Section 1 for date of preparation