POSEIDON EXTREME PRIMER (Part A)

SAFETY DATA SHEET

ACCORDING TO USA FEDERAL HAZCOM 012

1. IDENTIFICATION

1.1. Product Identifier

Code:	A-PEXT-A
Product name	**POSEIDON EXTREME PRIMER (Part A)**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	***Epoxy primer osmosis-preventative basecoat for metal. Part A. For professional use only.***

1.3. Details of the supplier of the safety data sheet

Name	**Armus LLC**
Full address	**137 Grand Street 3rd Floor**
	New York, NY 10013
Country	**United States**
	Tel. (+1) 917-957-5383
E-mail address of the competent person responsible for the Safety Data Sheet	bill@armussolutions.com

1.4. Emergency telephone number

For urgent inquiries refer to	**Tel. (+1) 917-957-5383 United States**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment is given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 3	Flammable liquid and vapor
Serious eye damage, category 1	Causes serious eye damage
Skin irritation, category 2	Causes skin irritation
Skin sensitization, category 1	May cause an allergic skin reaction

Hazard pictograms:

Signal words: **DANGER**

Hazard statements:

H226	Flammable liquid and vapor
H318	Causes serious eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P261	Avoid breathing fumes, mist, or spray
P242	Use only non-sparking tools.
P233	Keep container tightly closed.
P280	Wear protective gloves / eye protection / face protection.
P264	Wash with plenty of water and soap thoroughly after handling
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting / … / equipment
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and continue rinsing.
P303+P361+P353	IF ON SKIN: Remove contaminated clothing immediately. Rinse skin with water / shower.
P310	Call a POISON CONTROL CENTER / seek medical attention if you feel unwell
P302+P352	IF ON SKIN: Wash with plenty of water / …
P362+P364	Take off contaminated clothing and wash before reuse.
P390+P378	In case of fire: use dry powder or Carbon Dioxide fire extinguisher to extinguish
P363	Wash contaminated clothing before reuse.

Storage:

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

Disposal:

P501	Dispose of contents or container according to local/national/international regulations

The mixture contains 15.80%;37.42% of components of unknown acute oral / inhalation toxicity.

2.2 Other hazards
Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Components

Chemical Name	*CAS-No*	*EC*	*INDEX*	*Conc. %*	*Classification*
XYLENE (MIXTURE OF ISOMERS)	1330-20-7	215-535-7	601-022-009	25 < x < 27	Flammable liquid, category 3 H226, Acute toxicity, category 4 H312, Acute toxicity, category 4 H332, Skin irritation, category 2 H315
Phenol, 4.4-(1-methylethylidene) bis-polymer with 2.2-(1-methyehtylidene) bis [4.1-phenylene oxymethylene bis (oxirane)]	25036-25-3	607-500-3	---	20 < x < 22	Skin sensitization, category 1 H317

BUTANOL	71-36-3	200-751-6	603-004-00-6	5 < x < 6	Flammable liquid, category 3 H226, Acute toxicity, category 4 H302, Serious eye damage, category 1 H318, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335, Specific target organ toxicity - single exposure, category 3 H336

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. FIRST-AID MEASURES

4.1. Description of first aid measures

GENERAL ADVICE:
Move out of work / application area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

EYES:
Remove contact lenses.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical attention.
Keep eyes wide open while rinsing.
Continue rinsing eyes during transport to medical facility or for at least 30-60 minutes.

SKIN:
Take off contaminated clothing and shoes immediately.
Wash immediately with plenty of water.
If irritation persists, seek medical advice/attention.
Wash contaminated clothing before using it again.

INHALATION:
Move to fresh air.
In the event of breathing difficulties, seek medical advice / attention immediately.
If the subject stops breathing, administer artificial respiration.
Take suitable precautions for rescue workers.

INGESTION:
Seek medical advice / attention immediately.
Have the subject drink as much water as possible.
Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed
Specific information on symptoms and effects caused by the product is unknown.

4.3. Indication of any immediate medical attention and special treatment needed
Not applicable based on available information.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing equipment
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder, and water spray.

Unsuitable extinguishing equipment
None in particular.

5.2. Special hazards arising from the substance or mixture

Specific hazards during fire fighting
Excess pressure in any form in containers exposed to fire are at risk of explosion.
Do not breathe combustion products.

5.3. Advice for firefighters

General information	Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
Special protective equipment for fire-fighters	Normal firefighting clothing i.e., fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures
Block the leakage.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes, and clothing.
These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions
The product must not enter the sewer system or come into contact with surface water or groundwater.

6.3. Methods and material for containment and cleaning up
Collect the leaked product.
Absorb spilled product with inert absorbent material.
Make sure the leakage site is well-aired.
Contaminated material should be disposed of in compliance with the provisions set forth in section 13.

6.4. Reference to other sections
Any information on personal protection and disposal is given in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Keep away from heat, sparks, and open flames.
Do not eat, drink, or smoke during use.
Without adequate ventilation, vapors may accumulate and, if ignited, catch fire even at a distance, with the danger of backfire.
When performing transfer operations involving large containers, connect to an earthing system and wear anti-static footwear.
Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges.
To avoid the risk of fires and explosions, never use compressed air when handling.
Open containers with caution as they may be pressurized.
The product must not enter the sewer system or come into contact with surface water or groundwater.

7.2. Conditions for safe storage, including any incompatibilities
Store only in the original container.
Store the containers sealed, in a well-ventilated place, away from direct sunlight.
Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)
Refer to section 1.2

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-1 49, 3rd printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits- Limits for Air Contaminants Table Z-1-1910-1000
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH	---	434	100	651	150	
OSHA	USA	435	100			
CAL/OSHA	USA	435	100			

BUTANOL

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
TLV-ACGIH	--	61	20			
OSHA	USA	300	100			
CAL/OSHA	USA	150	50			SKIN
NIOSH	USA			150 (C)	50 (C)	SKIN

Legend:

(C) = CEILING
INHAL = Inhalable Fraction
RESP = Respirable Fraction
THORA = Thoracic Fraction

8.2. Exposure controls

Make sure that the workplace is well-aired through effective local ventilation.
Personal protective equipment must comply with current regulations.

Hand Protection — Protect hands with category III work gloves (OSHA 29 CFR 1910.138).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable.
The gloves' wear time depends on the duration and type of use.

Skin Protection — Wear category I professional long-sleeved overalls and safety footwear.
Wash body with soap and water after removing protective clothing.

Eye Protection — Wear airtight protective goggles (OSHA 29 CFR 1910.133).

Respiratory Protection	If the threshold value (e.g., TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapors of various kinds and/or gases or vapors containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odorless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.
Environmental Exposure Controls	The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. This product must not enter the sewer system or come into contact with surface water or groundwater.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Epoxy Polyamide
Color	Tinted; Available in black or white
Components	Part A Base & Part B Hardener
Mixing Ratio	4:1; A:B per volume
VOC	<300 g/liter
Solids by Volume	80 ± 3

10. STABILITY AND REACTIVITY

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

Butanol	Attacks various types of plastic materials

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapors may also form explosive mixtures in the air.

Xylene (mixture of isomers)	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.
Butanol	Reacts violently and/or develops heat on contact with: aluminum, strong oxidizing agents, reducing agents, hydrochloric acid. Forms explosive mixtures with: air

10.4. Conditions to avoid

Avoid overheating and all sources of ignition.

Butanol	Avoid exposure to: sources of heat and open flames.

10.5. Incompatible materials

None based on available information.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapors that are potentially dangerous to health may be released.

11. TOXICOLOGICAL INFORMATION

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information
Not classified based on available information.

Information on likely routes of exposure

Xylene (mixture of isomers)	Workers	Inhalation, contact with the skin
	Population	Ingestion of contaminated food or water Inhalation of ambient air

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

Xylene (mixture of isomers)	Toxic effect on the central nervous system (encephalopathy) Irritating for the skin, conjunctiva, cornea, and respiratory system

Interactive effects

Xylene (mixture of isomers)	Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapors (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.
N-BUTYL ACETATE	A case of acute intoxication has been reported involving a 33-year-old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness, and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapors, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

Acute toxicity

Xylene (mixture of isomers)	LD50 (Oral (Rat)) 3523 mg/kg LD50 (Dermal (Rabbit)) 4350 mg/kg LC50 (Inhalation (Rat)) 26 mg/liter Exposure time: 4h
Butanol	LC50 (Oral (Rat)) 790 mg/kg LD50 (Dermal (Rabbit)) 3400 mg/kg LC50 (Inhalation (Rat)) 8000 mg/liter Exposure time: 4h

Skin corrosion / irritation

Causes skin irritation.

Serious eye damage / irritation
Causes serious eye damage.

Respiratory or skin sensitization
Sensitizing for the skin.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.
Carcinogenicity Assessment:

Xylene (mixture of isomers)	1330-20-7	AGCIH: A4 IARC: 3 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential."

Reproductive toxicity
Not classified based on available information.

STOT – single exposure
Not classified based on available information.

STOT – repeated exposure
May cause damage to organs.

Aspiration toxicity / hazard
Not classified based on available information.

12. ECOLOGICAL INFORMATION

Use this product according to good working practices. Avoid littering. Inform the appropriate authorities if the product reaches waterways or contaminates soil or vegetation.

12.1. Toxicity
None based on available information.

12.2. Persistence and degradability

Xylene (mixture of isomers)

Solubility in Water	1000-10000 mg/ liter
Degradability:	Information not available.

BUTANOL

Solubility in Water	1000-10000 mg/ liter
Degradability:	Rapidly degradable

12.3. Bioaccumulative potential

Xylene (mixture of isomers)

Partition Co-efficient: N-octanol/water	3.12
BCF	25.9

BUTANOL

Partition Co-efficient: N-octanol/water	1
BCF	3.16

12.4. Mobility in soil

Xylene (mixture of isomers)

Partition Co-efficient: soil /water	2.73

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bio-accumulative (vPvB) in percentages greater than 0.1%.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	Reuse, when possible. Unused product should be considered special non-hazardous waste. Disposal must be performed through an authorized waste management firm, in compliance with local, national, and international regulations.
Contaminated Packaging	Contaminated packaging must be recovered or disposed of in compliance with all waste management regulations.

14. TRANSPORTATION INFORMATION

ADR/RID

UN/ID No.	UN 1263
Proper shipping name	PAINT RELATED MATERIAL
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
HIN – Kemler:	30
Limited Quantities:	5L
Tunnel Restriction Code:	(D/E)
Special Provision:	163, 367, 650

IMDG

UN/ID No.	UN 1263
Proper shipping name	PAINT RELATED MATERIAL
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
EMS:	F-E, S-E
Limited Quantities:	5L

IATA

UN/ID No.	N/A
Proper shipping name	PAINT RELATED MATERIAL
Class	3
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A

Packing instruction (cargo aircraft)	Maximum Quantity: 220L, Packing instruction: 366
Packing instruction (passenger aircraft)	Maximum Quantity: 5L, Packing instruction: 355
Special precautions for user:	A3, A72, A192

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA	All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory considered as "existing" chemical substances in U.S. commerce.	
Clean Air Act Section 112(b)	CAS 1330-20-7	Xylene (mixture of isomers)
Clean Air Act Sections 112(b), 602 Class I Substances, 602 Class II Substances	This product, in compliance to the Act, does not contain any substances regulated as pollutants.	
Clean Water Act Priority Toxic Pollutants	This product, in compliance to the Act, does not contain any substances regulated as pollutants.	
Clean Water Act: Toxic Pollutants	CAS 1330-20-7 CAS 1314-13-2	Xylene (mixture of isomers) Zinc Oxide (Zinc compounds, Zinc oxide fumes)
DEA List I Chemicals (Precursor Chemicals) and List II Chemicals (Essential Chemicals)	No component(s) listed; in compliance with the List.	
EPA List of Lists *313 Category Code:*	CAS 1330-20-7 CAS 1330-20-7	Xylene (mixture of isomers) BUTANOL
EPCRA 302 EHS TPQ	No component(s) listed; in compliance with the List.	
CERCLA RQ	CAS 1330-20-7 CAS 1330-20-7	Xylene (mixture of isomers) BUTANOL
EPCRA 313 TRI	CAS 1330-20-7 CAS 1330-20-7	Xylene (mixture of isomers) BUTANOL
RCRA Code	CAS 1330-20-7 CAS 67-56-1	Xylene (mixture of isomers) METHANOL
CAA 112 (r) TMP TQ	No component(s) listed; in compliance with the List.	

State Regulations

Massachusetts / Minnesota / New Jersey / New York / Pennsylvania/ California

CAS 1330-20-7	Xylene (mixture of isomers)
CAS 67-56-1	METHANOL

CA Proposition 65:

This product does not contain any substances known to the State of California to cause cancer, reproductive harm or birth defects.

16. OTHER INFORMATION

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H226	Flammable liquid and vapor
H318	Causes serious eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction

LEGEND:

313 CATEGORY CODE	Emergency Planning and Community Right-to Know Act Section 313 Category Code
ADR	European Agreement concerning the carriage of Dangerous goods by Road
CAA 112 (r) RMP TQ	Risk Management Plan Threshold Quantity (Clean Air Act Section 112(R))
CAS NUMBER	Chemical Abstract Service Number
CE50	Effective concentration (required to induce a 50% effect)
CERCLA RQ	Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
CLP	EC Regulation 1272/2008
DEA	Drug Enforcement Administration
EmS	Emergency Schedule
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPCRA 302 EHS TPQ	Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
EPCRA 304 EHS RQ	Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
EPCRA 313 TRI	Toxics Release Inventory (Section 313 Category Code)
GHS	Globally Harmonized System of classification and labeling of chemicals
IATA DGR	International Air Transport Association Dangerous Goods Regulation
IC50	Immobilization Concentration 50%
IMDG	International Maritime Code for dangerous goods
IMO	International Maritime Organization
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
OEL	Occupational Exposure Level
PEL	Predicted Exposure Level
RCRA Code	Resource Conservation and Recovery Act Code
REL	Recommended Exposure Limit
RID	Regulation concerning the international transport of dangerous goods by train
TLV	Threshold Limit Value
TLV CEILING	Concentration that should not be exceeded during any time of occupational exposure.
TSCA	Toxic Substances Control Act
TWA STEL	Short-term Exposure Limit
TWA	Time-weighted Average Exposure Limit
VOC	Volatile Organic Compounds
WHMIS	Workplace Hazardous Materials Information System

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

NOTE FOR USERS:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Purchasers must provide product users with adequate training on how to use chemical products.

ARMUS MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. ARMUS SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHT HELD BY OTHERS.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified: 02 / 03 / 08 / 11 / 15.

POSEIDON EXTREME PRIMER (Part B)

SAFETY DATA SHEET

ACCORDING TO USA FEDERAL HAZCOM 012

1. IDENTIFICATION

1.1. Product Identifier

Code:	A-PEXT-B
Product name	**POSEIDON EXTREME PRIMER (Part B)**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	***Epoxy primer osmosis-preventative basecoat for metal. Part B. For professional use only.***

1.3. Details of the supplier of the safety data sheet

Name	**Armus LLC**
Full address	**137 Grand Street 3rd Floor**
	New York, NY 10013
Country	**United States**
	Tel. (+1) 917-957-5383
E-mail address of the competent person responsible for the Safety Data Sheet	bill@armussolutions.com

1.4. Emergency telephone number

For urgent inquiries refer to	**Tel. (+1) 917-957-5383 United States**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment is given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 2	Highly flammable liquid and vapor
Specific target organ toxicity – repeated exposure, category 2	May cause damage to organs through prolonged or repeated exposure
Eye irritation, category 2	Causes serious eye irritation
Skin irritation, category 2	Causes skin irritation
Skin sensitization, category 1	May cause an allergic skin reaction

Hazard pictograms:

Signal words: **DANGER**

Hazard statements:

H225	Highly flammable liquid and vapor
H373	May cause damage to organs through prolonged or repeated exposure
H319	Causes serious eye irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P260	Do not breathe fumes, mist, or spray
P242	Use only non-sparking tools.
P233	Keep container tightly closed.
P280	Wear protective gloves / eye protection / face protection.
P264	Wash with plenty of water and soap thoroughly after handling
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting / … / equipment
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and continue rinsing.
P303+P361+P353	IF ON SKIN: Remove contaminated clothing immediately. Rinse skin with water / shower.
P314	Seek medical attention if you feel unwell
P333+P313	If skin irritation or rash occurs, seek medical attention
P337+P313	If eye irritation persists, seek medical attention
P302+P352	IF ON SKIN: Wash with plenty of water
P362+P364	Take off contaminated clothing and wash before reuse
P370+P378	In case of fire: use dry powder or Carbon Dioxide (CO_2) fire extinguisher to extinguish
P363	Wash contaminated clothing before reuse

Storage:

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

Disposal:

P501	Dispose of contents or container according to local/national/international regulations

2.2 Other hazards

Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Components

Chemical Name	*CAS-No*	*EC*	*INDEX*	*Conc. %*	*Classification*
XYLENE (MIXTURE OF ISOMERS)	1330-20-7	215-535-7	601-022-009	25 < x < 27	Flammable liquid, category 3 H226, Acute toxicity, category 4 H312, Acute toxicity, category 4 H332, Skin irritation, category 2 H315
ETHYLBENZENE	100-41-4	202-849-4	601-023-00-4	3 < x < 3.5	Flammable liquid, category 2 H225, Acute toxicity, category 4 H332, Aspiration hazard,

					category 1 H304, Specific target organ toxicity - repeated exposure, category 2 H373, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	292-588-2	---	1.5 < x < 2	Acute toxicity, category 4 H302, Acute toxicity, category 4 H312, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 3 H412

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. FIRST-AID MEASURES

4.1. Description of first aid measures

GENERAL ADVICE:
Move out of work / application area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

EYES:
Remove contact lenses.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical attention.
Keep eyes wide open while rinsing.
Continue rinsing eyes during transport to medical facility or for at least 30-60 minutes.

SKIN:
Take off contaminated clothing and shoes immediately.
Wash immediately with plenty of water.
If irritation persists, seek medical advice/attention.
Wash contaminated clothing before using it again.

INHALATION:
Move to fresh air.
In the event of breathing difficulties, seek medical advice / attention immediately.
If the subject stops breathing, administer artificial respiration.
Take suitable precautions for rescue workers.

INGESTION:
Seek medical advice / attention immediately.
Have the subject drink as much water as possible.
Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed
Specific information on symptoms and effects caused by the product is unknown.

4.3. Indication of any immediate medical attention and special treatment needed
Not applicable based on available information.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing equipment
The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder, and water spray.

Unsuitable extinguishing equipment	Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

Specific hazards during fire fighting	Excess pressure in any form in containers exposed to fire are at risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

General information	Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
Special protective equipment for fire-fighters	Normal firefighting clothing i.e., fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures
Block the leakage.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes, and clothing.
These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions
The product must not enter the sewer system or come into contact with surface water or groundwater.

6.3. Methods and material for containment and cleaning up
Collect the leaked product.
Absorb spilled product with inert absorbent material.
Make sure the leakage site is well-aired.
Contaminated material should be disposed of in compliance with the provisions set forth in section 13.

6.4. Reference to other sections
Any information on personal protection and disposal is given in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Keep away from heat, sparks, and open flames.
Do not eat, drink, or smoke during use.
Without adequate ventilation, vapors may accumulate and, if ignited, catch fire even at a distance, with the danger of backfire.
When performing transfer operations involving large containers, connect to an earthing system and wear anti-static footwear.
Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges.
To avoid the risk of fires and explosions, never use compressed air when handling.
Open containers with caution as they may be pressurized.
The product must not enter the sewer system or come into contact with surface water or groundwater.

7.2. Conditions for safe storage, including any incompatibilities
Store only in the original container.
Store the containers sealed, in a well-ventilated place, away from direct sunlight.
Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)
Refer to section 1.2

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-1 49, 3rd printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits- Limits for Air Contaminants Table Z-1-1910-1000
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH	---	434	100	651	150	
OSHA	USA	435	100			
CAL/OSHA	USA	435	100			

ETHYLBENZENE

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH	--	87	20			
OSHA	USA	435	100			
CAL/OSHA	USA	22	5	130	30	
NIOSH	USA	435	100	545	125	

Legend:

(C) = CEILING
INHAL = Inhalable Fraction
RESP = Respirable Fraction
THORA = Thoracic Fraction

8.2. Exposure controls

Make sure that the workplace is well-aired through effective local ventilation.
Personal protective equipment must comply with current regulations.

Hand Protection

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable.
The gloves' wear time depends on the duration and type of use.

Skin Protection

Wear category I professional long-sleeved overalls and safety footwear.
Wash body with soap and water after removing protective clothing.

Eye Protection	Wear airtight protective goggles (OSHA 29 CFR 1910.133).
Respiratory Protection	If the threshold value (e.g., TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapors of various kinds and/or gases or vapors containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odorless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.
Environmental Exposure Controls	The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. This product must not enter the sewer system or come into contact with surface water or groundwater.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Epoxy Polyamide
Color	Tinted; Available in black or white
Components	Part A Base & Part B Hardener
Mixing Ratio	4:1; A:B per volume
VOC	<300 g/liter
Solids by Volume	80 ± 3

10. STABILITY AND REACTIVITY

10.1. Reactivity
There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability
The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions
The vapors may also form explosive mixtures in the air.

Xylene (mixture of isomers)	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.
Ethylbenzene	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air

10.4. Conditions to avoid
Avoid overheating and all sources of ignition.

10.5. Incompatible materials
None based on available information.

10.6. Hazardous decomposition products
In the event of thermal decomposition or fire, gases and vapors that are potentially dangerous to health may be released.

Ethylbenzene	May develop: methane, styrene, hydrogen, ethane.

11. TOXICOLOGICAL INFORMATION

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information
Not classified based on available information.

Information on likely routes of exposure

Xylene (mixture of isomers)	Workers	Inhalation, contact with the skin
	Population	Ingestion of contaminated food or water Inhalation of ambient air
Ethylbenzene	Workers	Inhalation, contact with the skin
	Population	Ingestion of contaminated food or water Inhalation of ambient air

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

Xylene (mixture of isomers)	Toxic effect on the central nervous system (encephalopathy) Irritating for the skin, conjunctiva, cornea, and respiratory system

Interactive effects

Xylene (mixture of isomers)	Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapors (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

Acute toxicity

Xylene (mixture of isomers)	LD50 (Oral (Rat)) 3523 mg/kg LD50 (Dermal (Rabbit)) 4350 mg/kg LC50 (Inhalation (Rat)) 26 mg/liter Exposure time: 4h
Ethylbenzene	LC50 (Oral (Rat)) 3500 mg/kg LD50 (Dermal (Rabbit)) 15354 mg/kg LC50 (Inhalation (Rat)) 17.2 mg/liter Exposure time: 4h

Skin corrosion / irritation
Causes skin irritation.

Serious eye damage / irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Sensitizing for the skin.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity
Not classified based on available information.
Carcinogenicity Assessment:

Xylene (mixture of isomers)	1330-20-7	AGCIH: A4 IARC: 3 Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC). The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential."
Ethylbenzene	100-41-4	Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000). Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

Reproductive toxicity
Not classified based on available information.

STOT – single exposure
Not classified based on available information.

STOT – repeated exposure
May cause damage to organs.

Aspiration toxicity / hazard
Not classified based on available information.

12. ECOLOGICAL INFORMATION

Use this product according to good working practices. Avoid littering. Inform the appropriate authorities if the product reaches waterways or contaminates soil or vegetation.

12.1. Toxicity
None based on available information.

12.2. Persistence and degradability

Xylene (mixture of isomers)

Solubility in Water	1000-10000 mg/ liter
Degradability:	Information not available.

Ethylbenzene

Solubility in Water	1000-10000 mg/ liter
Degradability:	Rapidly degradable

12.3. Bioaccumulative potential

Xylene (mixture of isomers)

Partition Co-efficient: N-octanol/water	3.12
BCF	25.9

Ethylbenzene

Partition Co-efficient: N-octanol/water	2.73
BCF	3.6

12.4. Mobility in soil

Xylene (mixture of isomers)

Partition Co-efficient: soil /water	2.73

12.5. Results of PBT and vPvB assessment
On the basis of available data, the product does not contain any Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bio-accumulative (vPvB) in percentages greater than 0.1%.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	Reuse, when possible. Unused product should be considered special non-hazardous waste. Disposal must be performed through an authorized waste management firm, in compliance with local, national, and international regulations.
Contaminated Packaging	Contaminated packaging must be recovered or disposed of in compliance with all waste management regulations.

14. TRANSPORTATION INFORMATION

ADR/RID

UN/ID No.	UN 1866
Proper shipping name	RESIN SOLUTION
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
HIN – Kemler:	30
Limited Quantities:	5L
Tunnel Restriction Code:	(D/E)

IMDG

UN/ID No.	UN 1866
Proper shipping name	RESIN SOLUTION
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
EMS:	F-E, S-E
Limited Quantities:	5L

IATA

UN/ID No.	N/A
Proper shipping name	RESIN SOLUTION
Class	3
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
Packing instruction (cargo aircraft)	Maximum Quantity: 220L, Packing instruction: 366
Packing instruction (passenger aircraft)	Maximum Quantity: 5L, Packing instruction: 355
Special precautions for user:	A3

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA	All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory considered as "existing" chemical substances in U.S. commerce.	
Clean Air Act Section 112(b)	CAS 1330-20-7 CAS 100-41-4	Xylene (mixture of isomers) Ethylbenzene
Clean Air Act Sections 112(b), 602 Class I Substances, 602 Class II Substances	This product, in compliance to the Act, does not contain any substances regulated as pollutants.	
Clean Water Act Priority Toxic Pollutants	CAS 100-41-4	Ethylbenzene
Clean Water Act: Toxic Pollutants	CAS 100-41-4	Ethylbenzene
DEA List I Chemicals (Precursor Chemicals) and List II Chemicals (Essential Chemicals)	No component(s) listed; in compliance with the List.	
EPA List of Lists *313 Category Code:*	CAS 1330-20-7 CAS 100-41-4	Xylene (mixture of isomers) Ethylbenzene
EPCRA 302 EHS TPQ	No component(s) listed; in compliance with the List.	
CERCLA RQ	CAS 1330-20-7 CAS 100-41-4	Xylene (mixture of isomers) Ethylbenzene
EPCRA 313 TRI	CAS 1330-20-7 CAS 100-41-4	Xylene (mixture of isomers) Ethylbenzene
RCRA Code	CAS 1330-20-7	Xylene (mixture of isomers)
CAA 112 (r) TMP TQ	No component(s) listed; in compliance with the List.	

State Regulations

Massachusetts / Minnesota / New Jersey / New York / Pennsylvania/ California

CAS 1330-20-7	Xylene (mixture of isomers)
CAS 100-41-4	Ethylbenzene

CA Proposition 65:

WARNING! This product contains chemicals known to the State of California to cause cancer and birth defects or reproductive harm.

CAS 100-41-4	Ethylbenzene	Hazard Type Oral: 41 Inhalation: 51

16. OTHER INFORMATION

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H225	Highly flammable liquid and vapor
H373	May cause damage to organs through prolonged or repeated exposure
H319	Causes serious eye irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction

LEGEND:

313 CATEGORY CODE	Emergency Planning and Community Right-to Know Act Section 313 Category Code
ADR	European Agreement concerning the carriage of Dangerous goods by Road
CAA 112 (r) RMP TQ	Risk Management Plan Threshold Quantity (Clean Air Act Section 112(R))
CAS NUMBER	Chemical Abstract Service Number
CE50	Effective concentration (required to induce a 50% effect)
CERCLA RQ	Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
CLP	EC Regulation 1272/2008
DEA	Drug Enforcement Administration
EmS	Emergency Schedule
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPCRA 302 EHS TPQ	Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
EPCRA 304 EHS RQ	Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
EPCRA 313 TRI	Toxics Release Inventory (Section 313 Category Code)
GHS	Globally Harmonized System of classification and labeling of chemicals
IATA DGR	International Air Transport Association Dangerous Goods Regulation
IC50	Immobilization Concentration 50%
IMDG	International Maritime Code for dangerous goods
IMO	International Maritime Organization
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
OEL	Occupational Exposure Level
PEL	Predicted Exposure Level
RCRA Code	Resource Conservation and Recovery Act Code
REL	Recommended Exposure Limit
RID	Regulation concerning the international transport of dangerous goods by train
TLV	Threshold Limit Value
TLV CEILING	Concentration that should not be exceeded during any time of occupational exposure.
TSCA	Toxic Substances Control Act
TWA STEL	Short-term Exposure Limit
TWA	Time-weighted Average Exposure Limit
VOC	Volatile Organic Compounds
WHMIS	Workplace Hazardous Materials Information System

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

NOTE FOR USERS:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Purchasers must provide product users with adequate training on how to use chemical products.

ARMUS MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. ARMUS SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHT HELD BY OTHERS.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified: 02 / 03 / 08 / 11 / 15.

HULL PRO (Part A)

SAFETY DATA SHEET

ACCORDING TO USA FEDERAL HAZCOM 012

1. IDENTIFICATION

1.1. Product Identifier

Code:	A-HULL
Product name	**HULL PRO (Part A)**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	***Two-part fouling-release hull protectant. Part A Base. For professional use only.***

1.3. Details of the supplier of the safety data sheet

Name	**Armus LLC**
Full address	**137 Grand Street 3rd Floor**
	New York, NY 10013
Country	**United States**
	Tel. (+1) 917-957-5383
E-mail address of the competent person responsible for the Safety Data Sheet	bill@armussolutions.com

1.4. Emergency telephone number

For urgent inquiries refer to	**Tel. (+1) 917-957-5383 United States**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment is given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Flammable liquid, category 3	Flammable liquid and vapor
Acute toxicity, category 4	Harmful if swallowed
Acute toxicity, category 4	Harmful if inhaled
Eye irritation, category 2	Causes serious eye irritation
Skin irritation, category 2	Causes skin irritation
Skin sensitization, category 1	May cause an allergic skin reaction
Specific target organ toxicity – repeated exposure, category 2	May cause damage to organs through prolonged or repeated exposure

Hazard pictograms:

Signal words: **WARNING**

Hazard statements:

H226	Flammable liquid and vapor
H302+H332	Harmful if swallowed or if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H319	Causes serious eye irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction

Precautionary statements:

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P260	Do not breathe fume, mist, or spray.
P242	Use only non-sparking tools.
P233	Keep container tightly closed.
P280	Wear protective gloves / eye protection / face protection.
P270	Do not eat, drink, or smoke when using this product.
P271	Use only outdoors in a well-ventilated area.
P264	Wash with plenty of water and soap thoroughly after handling.
P240	Ground / bond container and receiving equipment.
P243	Take precautionary measures against static discharge.
P241	Use explosion-proof electrical / ventilating / lighting / … / equipment
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and continue rinsing.
P303+P361+P353	IF ON SKIN: Remove contaminated clothing immediately. Rinse skin with water / shower.
P312	Contact a POISON CONTROL CENTER / seek medical attention if you feel unwell.
P314	Seek medical advice / attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Seek medical advice / attention immediately.
P337+P313	If eye irritation persists, seek medical attention.
P304+P340	IF INHALED: Move to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water / …
P362+P364	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: use dry powder or Carbon Dioxide fire extinguisher to extinguish
P363	Wash contaminated clothing before reuse.

Storage:

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

Disposal:

P501	Dispose of contents or container according to local/national/international regulations

The mixture contains 15.80%;37.42% of components of unknown acute oral / inhalation toxicity.

2.2 Other hazards

Environmental classification as for Reg. (EU) 1272/2008 (CLP):
The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Hazard pictograms:

Signal words: **WARNING**

Classification and Hazard Statement

Hazardous to the aquatic environment, acute toxicity, category 1	Very toxic to aquatic life.
Hazardous to the aquatic environment, chronic toxicity, category 1	Very toxic to aquatic life with long-lasting effects

Hazard statements:

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long-lasting effects

Precautionary statements:

Prevention:	
P273	Avoid release into the environment
Response:	
P391	Collect spillage
Storage:	
Disposal:	
P501	Dispose of contents or container according to local/national/international regulations

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Components

Chemical Name	*CAS-No*	*EC*	*INDEX*	*Conc. %*	*Classification*
MAGNETITE	1309-38-0	215-169-8	---	18.8	Acute toxicity, category 4 H302 Specific target organ toxicity - repeated exposure, category 2 H373, Eye irritation, category 2 H319, Skin irritation, category 2 H315, Specific target organ toxicity - single exposure, category 3 H335
4,4' Isopropylidenedicyclohexanol, oligometric reaction products with 1-chloro-2,3-epoxypropane	30583-72-3	500-070-7	---	12.028	Skin sensitization, category 1B H317
ZINC OXIDE	1314-13-2	215-222-5	030-013-00-7	3.77	Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=1 Hazardous to the aquatic environment, chronic toxicity, category 1 H410 M=1
XYLENE (MIXTURE OF ISOMERS)	1330-20-7	215-535-7	601-022-009	2.82	Flammable liquid, category 3 H226, Acute toxicity, category

					4 H312, Acute toxicity, category 4 H332, Skin irritation, category 2 H315
4,5-Dichlor-2-octyl-3(2H)-isothiazol-3-one	64359-81-5	264-843-8	---	2.82	Acute toxicity, category 2 H330, Acute toxicity, category 4 H302, Skin corrosion, category 1 H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=100, Hazardous to the aquatic environment, chronic toxicity, category 1 H410 M=100
Epoxy resin (number average molecular weight <=700)	25068-38-6	500-033-5	603-074-00-8	2.82	Eye irritation, category 2 H319, Skin irritation, category 2 H315, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 2 H411
METHANOL	67-56-1	200-659-6	603-001-00-X	0.601	Flammable liquid, category 2 H225, Acute toxicity, category 3 H301, Acute toxicity, category 3 H311, Acute toxicity, category 3 H331, Specific target organ toxicity - single exposure, category 1 H370

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. FIRST-AID MEASURES

4.1. Description of first aid measures

GENERAL ADVICE:
Move out of work / application area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

EYES:
Remove contact lenses.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical attention.
Keep eyes wide open while rinsing.
Continue rinsing eyes during transport to medical facility or for at least 30-60 minutes.

SKIN:
Take off contaminated clothing and shoes immediately.
Wash immediately with plenty of water.
If irritation persists, seek medical advice/attention.
Wash contaminated clothing before using it again.

INHALATION:
Move to fresh air.
In the event of breathing difficulties, seek medical advice / attention immediately.
If the subject stops breathing, administer artificial respiration.
Take suitable precautions for rescue workers.

INGESTION:
Seek medical advice / attention immediately.
Have the subject drink as much water as possible.
Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptoms and effects caused by the product is unknown.

4.3. Indication of any immediate medical attention and special treatment needed

Not applicable based on available information.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing equipment	The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder, and water spray.
Unsuitable extinguishing equipment	None in particular.

5.2. Special hazards arising from the substance or mixture

Specific hazards during fire fighting	Do not breathe combustion products.

5.3. Advice for firefighters

General information	Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
Special protective equipment for fire-fighters	Normal firefighting clothing i.e., fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures

Block the leakage.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes, and clothing.
These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not enter the sewer system or come into contact with surface water or groundwater.

6.3. Methods and material for containment and cleaning up

Collect the leaked product.
Absorb spilled product with inert absorbent material.
Make sure the leakage site is well-aired.
Contaminated material should be disposed of in compliance with the provisions set forth in section 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep away from heat, sparks, and open flames.
Do not eat, drink, or smoke during use.
Without adequate ventilation, vapors may accumulate and, if ignited, catch fire even at a distance, with the danger of backfire.
When performing transfer operations involving large containers, connect to an earthing system and wear anti-static footwear.
Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges.
To avoid the risk of fires and explosions, never use compressed air when handling.
Open containers with caution as they may be pressurized.
The product must not enter the sewer system or come into contact with surface water or groundwater.

7.2. Conditions for safe storage, including any incompatibilities
Store only in the original container.
Store the containers sealed, in a well-ventilated place, away from direct sunlight.
Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)
Refer to section 1.2

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters
Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-1 49, 3rd printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits- Limits for Air Contaminants Table Z-1-1910-1000
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).
EU	OEL EU	Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2020

ZINC OXIDE

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
NIOSH-REL	USA	5		15 (C)		
OSHA	USA	5				
OSHA	USA	1.5				INHAL
OSHA	USA	5				RESP
CAL/OSHA	USA	5		10		
TLV-ACGIH	---	2		10		

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH	---	434	100	651	150	
OSHA	USA	435	100			
CAL/OSHA	USA	435	100			

METHANOL

Threshold Limit Value

Type	Country	TWA / 8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	Ppm	
OEL	EU	260	200			
TLV-ACGIH	---	262	200	328	250	SKIN
OSHA	USA	260	200			

CAL/OSHA	USA	260	200	325 (C)	1000 (C)	SKIN
NIOSH	USA	260	200	325	250	SKIN

Legend:
(C) = CEILING
INHAL = Inhalable Fraction
RESP = Respirable Fraction
THORA = Thoracic Fraction

8.2. Exposure controls
Make sure that the workplace is well-aired through effective local ventilation.
Personal protective equipment must comply with current regulations.

Hand Protection	Protect hands with category III work gloves (OSHA 29 CFR 1910.138). The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
Skin Protection	Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.
Eye Protection	Wear airtight protective goggles (OSHA 29 CFR 1910.133).
Respiratory Protection	If the threshold value (e.g., TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapors of various kinds and/or gases or vapors containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odorless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.
Environmental Exposure Controls	The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. This product must not enter the sewer system or come into contact with surface water or groundwater.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Silicone epoxy
Color	Transparent
Components	Part A Base & Part B Hardener
Mixing Ratio	4:1 A:B per volume
VOC	<240 g/L
Solids by Volume	80%
Flash point	> 140°F (60°C)

10. STABILITY AND REACTIVITY

10.1. Reactivity
There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability
The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions
The vapors may also form explosive mixtures in the air.

Xylene (mixture of isomers)	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid
Avoid overheating and all sources of ignition.

10.5. Incompatible materials
None based on available information.

10.6. Hazardous decomposition products
In the event of thermal decomposition or fire, gases and vapors that are potentially dangerous to health may be released.

11. TOXICOLOGICAL INFORMATION

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information
Not classified based on available information.

Information on likely routes of exposure

Xylene (mixture of isomers)	Workers	Inhalation, contact with the skin
	Population	Ingestion of contaminated food or water Inhalation of ambient air
METHANOL	Workers	Inhalation, contact with the skin
	Population	Ingestion of contaminated food or water Contact with the skin of products containing the substance
N-BUTYL ACETATE	Workers	Inhalation, contact with the skin

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

Xylene (mixture of isomers)	Toxic effect on the central nervous system (encephalopathy) Irritating for the skin, conjunctiva, cornea, and respiratory system
METHANOL	The minimum lethal dose for humans by ingestion is considered to be in the range from 300 to 1000 mg/kg. Ingestion of 4-10 ml of the substance may cause permanent blindness in adult humans (IPCS).
N-BUTYL ACETATE	In humans, the substance's vapors cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation,

dermatitis (dryness and cracking of the skin) and keratitis appear.

Interactive effects

Xylene (mixture of isomers)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapors (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

N-BUTYL ACETATE

A case of acute intoxication has been reported involving a 33-year-old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness, and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects.
Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapors, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

Acute toxicity

Epoxy resin (number average molecular weight <=700)

LD50 (Oral (Rat)) > 11500 mg/kg
LD50 (Dermal (Rabbit)) > 2000 mg/kg

Xylene (mixture of isomers)

LD50 (Oral (Rat)) 3523 mg/kg
LD50 (Dermal (Rabbit)) 4350 mg/kg
LC50 (Inhalation (Rat)) 26 mg/ liter
Exposure time: 4h

Skin corrosion / irritation
Causes skin irritation.

Serious eye damage / irritation
Causes serious eye irritation.

Respiratory or skin sensitization
Sensitizing for the skin.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.
Carcinogenicity Assessment:

Xylene (mixture of isomers) 1330-20-7

AGCIH: A4
IARC: 3
Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential."

Reproductive toxicity
Not classified based on available information.

STOT – single exposure
Not classified based on available information.

STOT – repeated exposure
May cause damage to organs.

Aspiration toxicity / hazard
Not classified based on available information.

12. ECOLOGICAL INFORMATION

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it has negative effects on aquatic environment.

12.1. Toxicity

Epoxy resin (number average molecular weight <=700)

Toxicity to fish	LC50: 1.3 mg/ liter Exposure time: 96 h
Toxicity Crustacea	EC50: 2.1 mg/ liter Exposure time: 48 h
Chronic NOEC for Crustacea	0.3 mg/ liter Exposure time: 21 d

Zinc Oxide

Toxicity to fish	LC50 (Oncorhynchus mykiss): 1.1 mg/ liter Exposure time: 96 h
Toxicity Crustacea	EC50 (Daphnia magna): 1.7 mg/ liter Exposure time: 48 h
Toxicity for Algae / Aquatic Plants	(Pseudokirchnerella subcapitata) 0.14 mg/ liter Exposure time: 72 h
Chronic NOEC for Fish	0.53 mg/ liter
Chronic NOEC for Algae / Aquatic Plants	0.024 mg/ liter

12.2. Persistence and degradability

Xylene (mixture of isomers)

Solubility in Water	1000-10000 mg/ liter
Degradability:	Information not available.

METHANOL

Solubility in Water	1000-10000 mg/ liter
Degradability:	Rapidly degradable

ZINC OXIDE

Solubility in Water	2.9 mg/ liter
Degradability:	NOT rapidly degradable

12.3. Bioaccumulative potential

Xylene (mixture of isomers)

Partition Co-efficient: N-octanol/water	3.12
BCF	25.9

METHANOL

Partition Co-efficient: N-octanol/water	-0.77
BCF	0.2

ZINC OXIDE

BCF	> 175

12.4. Mobility in soil

Xylene (mixture of isomers)

Partition Co-efficient: soil /water	2.73

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bio-accumulative (vPvB) substances.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	Reuse, when possible. Unused product should be considered special non-hazardous waste. Disposal must be performed through an authorized waste management firm, in compliance with local, national, and international regulations.
Contaminated Packaging	Contaminated packaging must be recovered or disposed of in compliance with all waste management regulations.

14. TRANSPORTATION INFORMATION

ADR/RID

UN/ID No.	UN 1263
Proper shipping name	PAINT or PAINT RELATED MATERIAL
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
HIN – Kemler:	30
Limited Quantities:	5L
Tunnel Restriction Code:	(D/E)

IMDG

UN/ID No.	UN 1263
Proper shipping name	PAINT or PAINT RELATED MATERIAL
Class	3
Packing Group	III
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A
EMS:	F-E, S-E
Limited Quantities:	5L

IATA

UN/ID No.	N/A
Proper shipping name	PAINT or PAINT RELATED MATERIAL
Class	3
Labels	Label 3
	
Environmental Hazards	NO
Environmental Labels	N/A

Packing instruction (cargo aircraft)	Maximum Quantity: 220L, Packing instruction: 366
Packing instruction (passenger aircraft)	Maximum Quantity: 5L, Packing instruction: 355
Special precautions for user:	A3, A72, A192

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA	All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory considered as "existing" chemical substances in U.S. commerce.	
Clean Air Act Section 112(b)	CAS 1330-20-7 CAS 67-56-1	Xylene (mixture of isomers) METHANOL
Clean Air Act Sections 112(b), 602 Class I Substances, 602 Class II Substances	This product, in compliance to the Act, does not contain any substances regulated as pollutants.	
Clean Water Act Priority Toxic Pollutants	This product, in compliance to the Act, does not contain any substances regulated as pollutants.	
Clean Water Act: Toxic Pollutants	CAS 1330-20-7	Xylene (mixture of isomers)
DEA List I Chemicals (Precursor Chemicals) and List II Chemicals (Essential Chemicals)	No component(s) listed; in compliance with the List.	
EPA List of Lists *313 Category Code:*	CAS 1330-20-7 CAS 67-56-1 CAS 1314-13-2	Xylene (mixture of isomers) METHANOL ZINC OXIDE (ZINC COMPOUNDS, ZINC OXIDE FUME)
EPCRA 302 EHS TPQ	No component(s) listed; in compliance with the List.	
CERCLA RQ	CAS 1330-20-7 CAS 67-56-1	Xylene (mixture of isomers) METHANOL
EPCRA 313 TRI	CAS 1330-20-7 CAS 67-56-1 CAS 1314-13-2	Xylene (mixture of isomers) METHANOL ZINC OXIDE (ZINC COMPOUNDS, ZINC OXIDE FUME)
RCRA Code	CAS 1330-20-7 CAS 67-56-1	Xylene (mixture of isomers) METHANOL
CAA 112 (r) TMP TQ	No component(s) listed; in compliance with the List.	

State Regulations

Massachusetts / Minnesota / Pennsylvania/ California

CAS 1314-13-2	ZINC OXIDE (ZINC COMPOUNDS, ZINC OXIDE FUME)
CAS 1330-20-7	Xylene (mixture of isomers)
CAS 7631-86-9	AMORPHOUS SILICATE HYDRATE
CAS 67-56-1	METHANOL

New Jersey:

CAS 1314-13-2	ZINC OXIDE (ZINC COMPOUNDS, ZINC OXIDE FUME)
CAS 1330-20-7	Xylene (mixture of isomers)
CAS 67-56-1	METHANOL

New York:

CAS 1330-20-7	Xylene (mixture of isomers)
CAS 67-56-1	METHANOL

CA Proposition 65:
WARNING! This product contains chemicals known to the State of California to cause cancer, reproductive harm, or birth defects.
CAS 67-56-1 METHANOL

16. OTHER INFORMATION

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H226	Flammable liquid and vapor
H302+H332	Harmful if swallowed or if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H319	Causes serious eye irritation
H315	Causes skin irritation
H317	May cause an allergic skin reaction

LEGEND:

313 CATEGORY CODE	Emergency Planning and Community Right-to Know Act Section 313 Category Code
ADR	European Agreement concerning the carriage of Dangerous goods by Road
CAA 112 (r) RMP TQ	Risk Management Plan Threshold Quantity (Clean Air Act Section 112(R))
CAS NUMBER	Chemical Abstract Service Number
CE50	Effective concentration (required to induce a 50% effect)
CERCLA RQ	Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
CLP	EC Regulation 1272/2008
DEA	Drug Enforcement Administration
EmS	Emergency Schedule
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPCRA 302 EHS TPQ	Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
EPCRA 304 EHS RQ	Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
EPCRA 313 TRI	Toxics Release Inventory (Section 313 Category Code)
GHS	Globally Harmonized System of classification and labeling of chemicals
IATA DGR	International Air Transport Association Dangerous Goods Regulation
IC50	Immobilization Concentration 50%
IMDG	International Maritime Code for dangerous goods
IMO	International Maritime Organization
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
OEL	Occupational Exposure Level
PEL	Predicted Exposure Level
RCRA Code	Resource Conservation and Recovery Act Code
REL	Recommended Exposure Limit
RID	Regulation concerning the international transport of dangerous goods by train
TLV	Threshold Limit Value
TLV CEILING	Concentration that should not be exceeded during any time of occupational exposure.
TSCA	Toxic Substances Control Act
TWA STEL	Short-term Exposure Limit
TWA	Time-weighted Average Exposure Limit
VOC	Volatile Organic Compounds
WHMIS	Workplace Hazardous Materials Information System

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website

- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

NOTE FOR USERS:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Purchasers must provide product users with adequate training on how to use chemical products.

ARMUS MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. ARMUS SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHT HELD BY OTHERS.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified: 02 / 03 / 08 / 11 / 15.

HULL PRO (Part B)

SAFETY DATA SHEET

ACCORDING TO USA FEDERAL HAZCOM 012

1. IDENTIFICATION

1.1. Product Identifier

Code:	A-HULL
Product name	**HULL PRO (Part B)**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use	***Two-part fouling-release hull protectant. Part B Hardener. For professional use only.***

1.3. Details of the supplier of the safety data sheet

Name	**Armus LLC**
Full address	**137 Grand Street 3rd Floor**
	New York, NY 10013
Country	**United States**
	Tel. (+1) 917-957-5383
E-mail address of the competent person responsible for the Safety Data Sheet	bill@armussolutions.com

1.4. Emergency telephone number

For urgent inquiries refer to	**Tel. (+1) 917-957-5383 United States**

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

Any additional information concerning the risks for health and/or the environment is given in sections 11 and 12 of this sheet.

Classification and Hazard Statement

Acute toxicity, category 4	Harmful if swallowed
Skin corrosion, category 1	Causes severe skin burns and eye damage.
Serious eye damage, category 1	Causes serious eye damage.
Skin sensitization, category 1	May cause an allergic skin reaction

Hazard pictograms:

Signal words: **DANGER**

Hazard statements:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction

Precautionary statements:

Prevention:

P260	Do not breathe fume, mist, or spray.
P280	Wear protective gloves / eye protection / face protection.
P270	Do not eat, drink, or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.

Response:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and continue rinsing.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN: Remove contaminated clothing immediately. Rinse skin with water / shower.
P310	Immediate call a POISON CONTROL CENTER / seek medical attention.
P304+P340	IF INHALED: Move to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water / …
P301+P312	IF SWALLOWED: Call a POISON CONTROL CENTER / doctor if you feel unwell.
P363	Wash contaminated clothing before reuse.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents or container according to local/ national/ international regulations

2.1. Classification of the substance or mixture

Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Components

Chemical Name	*CAS-No*	*EC*	*INDEX*	*Conc. %*	*Classification*
3-Aminopropyltriethoxysilane	919-30-1	213-048-4	612-108-00-0	99.9	Acute toxicity, category 4 H302, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317

The full wording of hazard (H) phrases is given in section 16 of the sheet.

4. FIRST-AID MEASURES

4.1. Description of first aid measures

GENERAL ADVICE: Move out of work / application area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

EYES:	Remove contact lenses. In the case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Keep eyes wide open while rinsing. Continue rinsing eyes during transport to medical facility or for at least 30-60 minutes.
SKIN:	Take off contaminated clothing and shoes immediately. Wash immediately with plenty of water. If irritation persists, seek medical advice/attention. Wash contaminated clothing before using it again.
INHALATION:	Move to fresh air. In the event of breathing difficulties, seek medical advice / attention immediately. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.
INGESTION:	Seek medical advice / attention immediately. Have the subject drink as much water as possible. Do not induce vomiting without medical advice.

4.2. Most important symptoms and effects, both acute and delayed
Specific information on symptoms and effects caused by the product is unknown.

4.3. Indication of any immediate medical attention and special treatment needed
Not applicable based on available information.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing equipment	The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder, and water spray.
Unsuitable extinguishing equipment	None in particular.

5.2. Special hazards arising from the substance or mixture

Specific hazards during fire fighting	Do not breathe combustion products.

5.3. Advice for firefighters

General information	Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
Special protective equipment for fire-fighters	Normal firefighting clothing i.e., fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures
Block the leakage.
Wear suitable protective equipment (including personal protective equipment referred to under section 8 of the safety data sheet) to prevent any contamination of skin, eyes, and clothing.
These indications apply for both product users and those involved in emergency procedures.

6.2. Environmental precautions
The product must not enter the sewer system or come into contact with surface water or groundwater.

6.3. Methods and material for containment and cleaning up
Collect the leaked product.
Absorb spilled product with inert absorbent material.
Make sure the leakage site is well-aired.
Contaminated material should be disposed of in compliance with the provisions set forth in section 13.

6.4. Reference to other sections
Any information on personal protection and disposal is given in sections 8 and 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling
Keep away from heat, sparks, and open flames.
Do not eat, drink, or smoke during use.
Without adequate ventilation, vapors may accumulate and, if ignited, catch fire even at a distance, with the danger of backfire.
When performing transfer operations involving large containers, connect to an earthing system and wear anti-static footwear.
Vigorous stirring and flow through tubes and equipment may cause the formation and accumulation of electrostatic charges.
To avoid the risk of fires and explosions, never use compressed air when handling.
Open containers with caution as they may be pressurized.
The product must not enter the sewer system or come into contact with surface water or groundwater.

7.2. Conditions for safe storage, including any incompatibilities
Store only in the original container.
Store the containers sealed, in a well-ventilated place, away from direct sunlight.

7.3. Specific end use(s)
Refer to section 1.2

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters
Not applicable.

8.2. Exposure controls
Make sure that the workplace is well aired through effective local ventilation.
Personal protective equipment must comply with current regulations.

Hand Protection	Protect hands with category III work gloves (OSHA 29 CFR 1910.138). The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
Skin Protection	Wear category I professional long-sleeved overalls and safety footwear. Wash body with soap and water after removing protective clothing.
Eye Protection	Wear airtight protective goggles (OSHA 29 CFR 1910.133).
Respiratory Protection	If the threshold value (e.g., TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapors of various kinds and/or gases or vapors containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required. Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited. If the substance considered is odorless or its olfactory threshold is higher than the

	corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84, OSHA 29 CFR 1910.134.
Environmental Exposure Controls	The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards. The product must not enter the sewer system or come into contact with surface water or groundwater.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Silicone epoxy
Color	Transparent
Components	Part A Base & Part B Hardener
Mixing Ratio	4:1 A:B per volume
VOC	<240 g/L
Solids by Volume	80%
Flash point	> 140°F (60°C)

10. STABILITY AND REACTIVITY

10.1. Reactivity
There are no particular risks of reaction with other substances in normal conditions of use.

10.2. Chemical stability
The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions
The vapors may also form explosive mixtures in the air.

Xylene (mixture of isomers)	Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

10.4. Conditions to avoid
Avoid overheating and all sources of ignition.

10.5. Incompatible materials
None based on available information.

10.6. Hazardous decomposition products
None based on available information.

11. TOXICOLOGICAL INFORMATION

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information
Not classified based on available information.

Information on likely routes of exposure
Not classified based on available information.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Not classified based on available information.

Interactive effects
Not classified based on available information.

Acute toxicity
Acute toxicity, category 4. Harmful if swallowed.

Skin corrosion / irritation
Corrosive for the skin.

Serious eye damage / irritation
Causes serious eye damage.

Respiratory or skin sensitization
Sensitizing for the skin.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT – single exposure
Not classified based on available information.

STOT – repeated exposure
Not classified based on available information.

Aspiration toxicity / hazard
Not classified based on available information.

12. ECOLOGICAL INFORMATION

Use this product according to good working practices. Avoid littering. Inform the appropriate authorities should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity
None based on available information.

12.2. Persistence and degradability
None based on available information.

12.3. Bioaccumulative potential
None based on available information.

12.4. Mobility in soil
None based on available information.

12.5. Results of PBT and vPvB assessment
On the basis of available data, the product does not contain any Persistent, Bioaccumulative and Toxic (PBT) or very Persistent and very Bio-accumulative (vPvB) substances.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	Reuse, when possible. Unused product should be considered special non-hazardous waste. Disposal must be performed through an authorized waste management firm, in compliance with location, national, and international regulations.
Contaminated Packaging	Contaminated packaging must be recovered or disposed of in compliance with all waste management regulations.

14. TRANSPORTATION INFORMATION

ADR/RID

UN/ID No.	UN 2735
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Class	8
Packing Group	III
Labels	Label 8
	
Environmental Hazards	NO
Environmental Labels	N/A
HIN – Kemler:	80
Limited Quantities:	5L
Tunnel Restriction Code:	(E)

IMDG

UN/ID No.	UN 2735
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Class	8
Packing Group	III
Labels	Label 8
	
Environmental Hazards	NO
Environmental Labels	N/A
EMS:	F-A, S-B
Limited Quantities:	5L

IATA

UN/ID No.	N/A
Proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Class	8
Packing Group	N/A
Labels	Label 8
	
Environmental Hazards	NO
Environmental Labels	N/A
Packing instruction (cargo aircraft)	Maximum Quantity: 60L, Packing instruction: 856
Packing instruction (passenger aircraft)	Maximum Quantity: 5L, Packing instruction: 852
Special precautions for user:	A3, A803

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA	All components of this product are listed on US Toxic Substances Control Act (TSCA) Inventory considered as "existing" chemical substances in U.S. commerce.
Clean Air Act Sections 112(b), including 602 Class I and 602 Class II Substances	This product, in compliance to the Act, does not contain any substances regulated as pollutants.
Clean Water Act Priority Toxic Pollutants	This product, in compliance to the Act, does not contain any substances regulated as pollutants.
Clean Water Act: Toxic Pollutants	No component(s) listed; in compliance with the List.
DEA List I Chemicals (Precursor Chemicals) and List II Chemicals (Essential Chemicals)	No component(s) listed; in compliance with the List.
EPA List of Lists 313 Category Code:	No component(s) listed; in compliance with the List.
EPCRA 302 EHS TPQ CERCLA RQ	No component(s) listed; in compliance with the List.
EPCRA 313 TRI	No component(s) listed; in compliance with the List.
RCRA Code	No component(s) listed; in compliance with the List.
CAA 112 (r) TMP TQ	No component(s) listed; in compliance with the List.

State Regulations

Massachusetts / Minnesota / New Jersey / New York / Pennsylvania / California

No component(s) listed.

CA Proposition 65:

This product does not contain any substances known to the State of California to cause cancer, reproductive harm, or birth defects.

16. OTHER INFORMATION

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction

LEGEND:

313 CATEGORY CODE	Emergency Planning and Community Right-to Know Act Section 313 Category Code
ADR	European Agreement concerning the carriage of Dangerous goods by Road
CAA 112 (r) RMP TQ	Risk Management Plan Threshold Quantity (Clean Air Act Section 112(R))
CAS NUMBER	Chemical Abstract Service Number
CE50	Effective concentration (required to induce a 50% effect)
CERCLA RQ	Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
CLP	EC Regulation 1272/2008
DEA	Drug Enforcement Administration
EmS	Emergency Schedule
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
EPCRA 302 EHS TPQ	Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
EPCRA 304 EHS RQ	Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
EPCRA 313 TRI	Toxics Release Inventory (Section 313 Category Code)
GHS	Globally Harmonized System of classification and labeling of chemicals

IATA DGR	International Air Transport Association Dangerous Goods Regulation
IC50	Immobilization Concentration 50%
IMDG	International Maritime Code for dangerous goods
IMO	International Maritime Organization
LC50	Lethal Concentration 50%
LD50	Lethal Dose 50%
OEL	Occupational Exposure Level
PEL	Predicted Exposure Level
RCRA Code	Resource Conservation and Recovery Act Code
REL	Recommended Exposure Limit
RID	Regulation concerning the international transport of dangerous goods by train
TLV	Threshold Limit Value
TLV CEILING	Concentration that should not be exceeded during any time of occupational exposure.
TSCA	Toxic Substances Control Act
TWA STEL	Short-term Exposure Limit
TWA	Time-weighted Average Exposure Limit
VOC	Volatile Organic Compounds
WHMIS	Workplace Hazardous Materials Information System

GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh - Registry of Toxic Effects of Chemical Substances
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

NOTE FOR USERS:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Purchasers must provide product users with adequate training on how to use chemical products.

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CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12.
The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified: 02 / 03 / 08 / 11 / 15.