

1. Identification

Product identifier NOVOCOAT™ EPOXY THINNER

Other means of identification None.

Recommended use Not available.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Armor Limited, Inc.
Address 2410 US-15 South, Sumter, SC 29150

After hours telephone number 1-877-982-7667

Normal work hours telephone number 1-877-982-7667

Website www.armor-inc.com

E-mail customerservice@armor-inc.com

Emergency 24-hour telephone number CHEMTREC North America: +1-800-424-9300, International: +1-703-527-3887

Information on operation hours 8:00 a.m. to 5:00 p.m.

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Health hazards Acute toxicity, oral Category 4

Acute toxicity, dermal Category 4

Acute toxicity, inhalation Category 4

Specific target organ toxicity, single exposure Category 3 narcotic effects

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Flammable liquid and vapor. May cause drowsiness or dizziness. Harmful in contact with skin. Harmful if inhaled. Harmful if swallowed.

Precautionary statement

Prevention

Keep away from flames and hot surfaces-No smoking. Keep container tightly closed. Avoid breathing mist/vapors/spray. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection.

Response

In case of fire: Use appropriate media for extinction. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Storage

Store in a well-ventilated place. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1-BUTANOL		71-36-3	35 - 65
XYLENE		1330-20-7	35 - 65
HEPTAN-2-ONE		110-43-0	10 - 25

4. First-aid measures

Inhalation

Move to fresh air. For breathing difficulties, oxygen may be necessary. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Wash off with warm water and soap. For minor skin contact, avoid spreading material on unaffected skin. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Indication of immediate medical attention and special treatment needed

Oxygen, if needed. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off contaminated clothing and shoes immediately. If you feel unwell, seek medical advice (show the label where possible). In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Water spray. Water fog. Carbon dioxide (CO₂). Alcohol resistant foam. Powder.

Unsuitable extinguishing media

Water. Do not use a solid water stream as it may scatter and spread fire. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection. Wear suitable protective equipment.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use standard firefighting procedures and consider the hazards of other involved materials. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Some of these materials, if spilled, may evaporate leaving a flammable residue.

Specific methods

In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Consider initial downwind evacuation for at least 500 meters (1/3 mile). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Ensure adequate ventilation.

Methods and materials for containment and cleaning up

Extinguish all flames in the vicinity.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS.

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. May be ignited by open flame. Keep away from sources of ignition - No smoking. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Do not smoke. All equipment used when handling the product must be grounded. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Do not use in areas without adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Avoid prolonged exposure. When using do not eat or drink. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains. Use care in handling/storage.

Conditions for safe storage, including any incompatibilities

CAUTION The pressure in sealed containers can increase under the influence of heat. Do not handle or store near an open flame, heat or other sources of ignition. Keep away from heat and sources of ignition. Keep at temperature not exceeding 50 °C. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Store in a closed container away from incompatible materials. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Use care in handling/storage.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
1-BUTANOL (CAS 71-36-3)	PEL	300 mg/m3
		100 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
HEPTAN-2-ONE (CAS 110-43-0)	PEL	465 mg/m ³ 100 ppm
XYLENE (CAS 1330-20-7)	PEL	435 mg/m ³ 100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
1-BUTANOL (CAS 71-36-3)	TWA	20 ppm
HEPTAN-2-ONE (CAS 110-43-0)	TWA	50 ppm
XYLENE (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1-BUTANOL (CAS 71-36-3)	Ceiling	150 mg/m ³ 50 ppm
HEPTAN-2-ONE (CAS 110-43-0)	TWA	465 mg/m ³ 100 ppm
XYLENE (CAS 1330-20-7)	STEL	655 mg/m ³ 150 ppm
	TWA	435 mg/m ³ 100 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
XYLENE (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

1-BUTANOL (CAS 71-36-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

1-BUTANOL (CAS 71-36-3) Skin designation applies.

US - Tennessee OELs: Skin designation

1-BUTANOL (CAS 71-36-3) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

1-BUTANOL (CAS 71-36-3) Can be absorbed through the skin.

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Provide adequate general and local exhaust ventilation.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Do not get in eyes. Avoid contact with eyes. Chemical goggles are recommended. Face-shield. Eye wash fountain is recommended. Goggles/face shield are recommended.

Skin protection**Hand protection**

Wear protective gloves. Wear appropriate chemical resistant gloves.

Other	Avoid contact with the skin. Wear appropriate chemical resistant clothing. Wear suitable protective clothing. Chemical resistant gloves. Wear protective gloves. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	In the case of respirable dust and/or fumes, use self-contained breathing apparatus. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. No personal respiratory protective equipment normally required.
Thermal hazards	Not available.
General hygiene considerations	When using do not smoke. When using, do not eat, drink or smoke. Do not get in eyes. Avoid contact with eyes. Avoid contact with skin. Wash hands after handling. Wash hands before breaks and immediately after handling the product. Wash hands after handling and before eating. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Pale
Odor	Mild solvent odor
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	84.0 °F (28.9 °C) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	8.86 hPa estimated
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	6.93 lb/gal estimated
Specific gravity	0.83 estimated

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Risk of explosion. Risk of ignition. Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Alkaline metals. Strong oxidizing agents. Strong acids.

Hazardous decomposition products

Toxic gas. Irritants. Nitrogen oxides (NOx).

11. Toxicological information**Information on likely routes of exposure****Inhalation** Harmful by inhalation.**Skin contact** Harmful in contact with skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.**Eye contact** May be irritating to eyes.**Ingestion** Harmful if swallowed.**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.**Information on toxicological effects****Acute toxicity** Harmful if inhaled, absorbed through skin, or swallowed.

Components	Species	Test Results
1-BUTANOL (CAS 71-36-3)		
Acute		
Dermal		
LD50	Rabbit	3400 mg/kg
HEPTAN-2-ONE (CAS 110-43-0)		
Acute		
Dermal		
LD50	Rabbit	12600 mg/kg
XYLENE (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 43 g/kg
Inhalation		
LC50	Rat	6350 mg/l, 4 Hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Irritating to skin. Not available. Not classified.**Serious eye damage/eye irritation** May be irritating to eyes. Not classified.**Respiratory or skin sensitization****Respiratory sensitization** Not classified. Not available.**Skin sensitization** Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Not classified. None known. Not available.**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Not available. Not classified.**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Not available. Not classifiable as to carcinogenicity to humans. Not classified.**IARC Monographs. Overall Evaluation of Carcinogenicity**

XYLENE (CAS 1330-20-7) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Not classified.**Specific target organ toxicity - single exposure** Narcotic effects.

Specific target organ toxicity - repeated exposure	Not classified. Not available.
Aspiration hazard	Not classified. Not available.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects. Not expected to be hazardous by WHMIS criteria.
Further information	Symptoms may be delayed. This product has no known adverse effect on human health

12. Ecological information

Ecotoxicity	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
--------------------	--

Product		Species	Test Results
NOVOCOAT™ EPOXY THINNER			
Aquatic			
Crustacea	EC50	Daphnia	4742.5 mg/l, 48 hours estimated
Fish	LC50	Fish	95.2672 mg/l, 96 hours estimated
Components		Species	Test Results
1-BUTANOL (CAS 71-36-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1897 - 2072 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	100 - 500 mg/l, 96 hours
HEPTAN-2-ONE (CAS 110-43-0)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	126 - 137 mg/l, 96 hours
XYLENE (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
--------------------------------------	--

Bioaccumulative potential	Not available.
----------------------------------	----------------

Partition coefficient n-octanol / water (log Kow)	
1-BUTANOL	0.88
HEPTAN-2-ONE	1.98
XYLENE	3.12 - 3.2

Mobility in soil	Not available.
-------------------------	----------------

Other adverse effects	Not available.
------------------------------	----------------

13. Disposal considerations

Disposal instructions	If discarded, this product is considered a RCRA ignitable waste, D001. Do not discharge into drains, water courses or onto the ground. Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1263
UN proper shipping name	Paint Related Material

Transport hazard class(es)

Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Special precautions for user	Not available.
Special provisions	B1, B52, IB3, T2, TP1
Packaging exceptions	150
Packaging non bulk	173
Packaging bulk	242

IATA

UN number	UN1263
UN proper shipping name	Paint Related Material
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1263
UN proper shipping name	Paint Related Material
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No
EmS	F-E, S-D
Special precautions for user	Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

DOT



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1-BUTANOL (CAS 71-36-3)

Listed.

XYLENE (CAS 1330-20-7)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312

Yes

Hazardous chemical

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure)

Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1-BUTANOL	71-36-3	35 - 65
XYLENE	1330-20-7	35 - 65

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

XYLENE (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

1-BUTANOL (CAS 71-36-3)

Low priority

HEPTAN-2-ONE (CAS 110-43-0)

Other Flavoring Substances with OSHA PEL's

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

XYLENE (CAS 1330-20-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	06-15-2020
Revision date	10-21-2021
Version #	02
Further information	HMIS® is a registered trade and service mark of the NPCA.
NFPA ratings	Health: 2 Flammability: 3 Instability: 0
References	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Revision information	Ecological information: Ecotoxicity GHS: Classification