

1. Identification

Product identifier **NOVOTOWERTM SP2000R SELF-LEVELING EPOXY PART B HARDENER**
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 Not classified.
Health hazards Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Sensitization, respiratory Category 1
Sensitization, skin Category 1
Reproductive toxicity Category 2
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of damaging fertility or the unborn child.

Precautionary statement**Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Specific treatment see Section 4 of this SDS. Immediately call a POISON CENTER/doctor. If exposed or concerned: Get medical advice/attention.
Storage	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	%
PROPRIETARY INGREDIENTS		N/A	25 - 35
FATTY ACIDS, TALL-OIL REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE		68605-86-7	15 - 25
1,3-BENZENEDIMETHANAMINE		1477-55-0	1 - 20
3-AMINOPROPYLTRIETHOXYSILAN E		919-30-2	1 - 5
PHENOL, 4-NONYL-, BRANCHED		84852-15-3	1 - 5
3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE TETRAETHYLENEPENTAMINE		112-57-2	< 1
ETHYLENEDIAMINE		107-15-3	< 1

4. First-aid measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Wash off immediately with soap and plenty of water. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Get medical attention immediately.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. May cause an allergic skin reaction. Contact may cause redness, burning, drying, and cracking of the skin, and skin damage. Headache. Dizziness. Itching. Itching. Rash. Dermatitis.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

No unusual fire or explosion hazards noted.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. 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.

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

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage**Precautions for safe handling**

Eliminate all sources of ignition. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Add material slowly when mixing with water. Do not add water to the material; instead, add the material to the water. Keep container tightly closed. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Provide adequate ventilation. Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

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

Components	Type	Value
ETHYLENEDIAMINE (CAS 107-15-3)	PEL	25 mg/m ³
		10 ppm

US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value
1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0)	Ceiling	0.018 ppm
ETHYLENEDIAMINE (CAS 107-15-3)	TWA	10 ppm

NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended

Components	Type	Value
ETHYLENEDIAMINE (CAS 107-15-3)	IDLH	2.5 %
		1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards Recommended Exposure Limits (REL)

Components	Type	Value
1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0)	Ceiling	0.1 mg/m ³
		25 mg/m ³
ETHYLENEDIAMINE (CAS 107-15-3)	TWA	10 ppm

US. OARS. Workplace Environmental Exposure Level (WEEL) Guide

Components	Type	Value	Form
3,6,9-TRIAZAUNDECAMETH TETRAETHYLENEPENTAMIN E (CAS 112-57-2)	TWA	5 mg/m3	Aerosol.
		1 ppm	Aerosol.

Biological limit values No biological exposure limits noted for the ingredient(s).

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

1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0) Can be absorbed through the skin.

US - Tennessee OELs: Skin designation

1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0) Danger of cutaneous absorption

ETHYLENEDIAMINE (CAS 107-15-3) Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

1,3-BENZENEDIMETHANAMINE (CAS 1477-55-0) Can be absorbed through the skin.

US WEEL Guides: Skin designation

3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE Can be absorbed through the skin.

TETRAETHYLENEPENTAMINE (CAS 112-57-2)

Appropriate engineering controls Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Liquid.

Color Varies

Odor Ammoniacal. Amine-like.

Odor threshold Not available.

pH Alkaline

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point >200.0 °F (>93.3 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

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	
Bulk density	8.25 lb/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	0.99 g/mL

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes severe skin burns and eye damage. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Exposure may cause temporary irritation, redness, or discomfort. May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Dermatitis. Dizziness. Rash. Itching. Causes serious eye damage. May cause an allergic skin reaction. Contact may cause redness, burning, drying, and cracking of the skin, and skin damage.
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Information on toxicological effects

Acute toxicity

Components	Species	Test Results
3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE TETRAETHYLENEMPENTAMINE (CAS 112-57-2)		
Acute		
Dermal		
LD50	Rabbit	0.66 g/kg
3-AMINOPROPYLTRIETHOXYSILANE (CAS 919-30-2)		
Acute		
Dermal		
LD50	Rabbit	4000 mg/kg
Inhalation		
LC50	Rat	> 7.35 mg/l, 4 Hours
Oral		
LD50	Rat	1.57 g/kg

Components	Species	Test Results
PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3)		
Acute		
Dermal		
LD50	Rabbit	2140 mg/kg
Oral		
LD50	Rat	1600 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This chemical may cause skin/eye irritation and burns (corrosive). May cause allergic skin disorders in sensitive individuals.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Not listed.		
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)		
Not listed.		
US. National Toxicology Program (NTP) Report on Carcinogens		
Not listed.		
Reproductive toxicity	Suspected of damaging fertility or the unborn child.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful.	

12. Ecological information

Ecotoxicity The product is 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
NOVOTOWER™ SP2000R SELF-LEVELING EPOXY PART B HARDENER			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia	2.4451 mg/l, 48 hours estimated
Fish	LC50	Fish	1.0849 mg/l, 96 hours estimated

Components	Species		Test Results
ETHYLENEDIAMINE (CAS 107-15-3)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Fathead minnow (Pimephales promelas)	98.6 - 131.6 mg/l, 96 hours
PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Clam (Mulinia lateralis)	0.0379 mg/l, 48 hours
Fish	LC50	Winter flounder (Pleuronectes americanus)	0.017 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)	
3,6,9-TRIAZAUNDECAMETHYLENEDIAMINE	1.503
TETRAETHYLENEPENTAMINE	
ETHYLENEDIAMINE	-2.04
PHENOL, 4-NONYL-, BRANCHED	5.71

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

UN number UN2735

UN proper shipping name Amines, liquid, corrosive, n.o.s. (FATTY ACIDS, TALL-OIL REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE)

Transport hazard class(es)

Class 8

Subsidiary hazard -

Packing group III

Environmental hazards YES

ERG Code 8L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN2735

UN proper shipping name AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (FATTY ACIDS, TALL-OIL REACTION PRODUCTS WITH TETRAETHYLENEPENTAMINE), MARINE POLLUTANT

Transport hazard class(es)

Class 8

Subsidiary hazard -

Packing group III

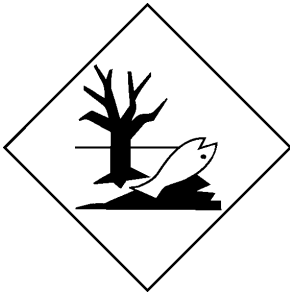
Environmental hazards

Marine pollutant Yes

EmS F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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

**Marine pollutant****15. Regulatory information****US federal regulations**

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

Toxic Substances Control Act (TSCA)

One or more components of the mixture are not on the TSCA 8(b) inventory or are designated "inactive".

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

PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3) 1.0 % One-Time Export Notification only.

Toxic Substances Control Act (TSCA) Section 5(a)(2) Proposed Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3) 721.10765

CERCLA Hazardous Substance List (40 CFR 302.4)

ETHYLENEDIAMINE (CAS 107-15-3) Listed.

SARA 304 Emergency release notification

ETHYLENEDIAMINE (CAS 107-15-3) 5000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
ETHYLENEDIAMINE	107-15-3	5000	10000		

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Reproductive toxicity

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
PHENOL, 4-NONYL-, BRANCHED	84852-15-3	1 - 5

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

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

ETHYLENEDIAMINE (CAS 107-15-3)

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
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 09-16-2024

Version # 01

NFPA ratings
Health: 3
Flammability: 0
Instability: 0

Disclaimer

Armor cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.