

**1. Identification**

**Product identifier** **NOVOCOAT™ EP4900 CERAMIC CARBIDE PART B**  
**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 2  
 Serious eye damage/eye irritation Category 2  
 Sensitization, skin Category 1  
 Germ cell mutagenicity Category 2  
 Carcinogenicity Category 2  
 Specific target organ toxicity, repeated exposure Category 1  
**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 causing genetic defects. May cause damage to organs through prolonged or repeated exposure.  
**Precautionary statement**  
**Prevention** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash 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.

<b>Response</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Specific treatment see Section 4 of this SDS. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Not applicable.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
CYCLOHEXANAMINE, 4,4'-METHYLENEBIS-		1761-71-3	20 - 30
3-AMINOPROPYLTRIETHOXYSILAN E		919-30-2	1 - 10
PHENOL		108-95-2	1 - 10
TRIENTINE		112-24-3	1 - 10
Other components below reportable levels			71.01

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
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**Methods and materials for containment and cleaning up**

This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

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. 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.

**Environmental precautions**

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

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

Avoid prolonged exposure. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store in original tightly closed container.

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
PHENOL (CAS 108-95-2)	PEL	19 mg/m <sup>3</sup> 5 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value
PHENOL (CAS 108-95-2)	TWA	5 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
PHENOL (CAS 108-95-2)	Ceiling	60 mg/m <sup>3</sup> 15.6 ppm
	TWA	19 mg/m <sup>3</sup> 5 ppm

**US. Workplace Environmental Exposure Level (WEEL) Guides**

Components	Type	Value
TRIENTINE (CAS 112-24-3)	TWA	6 mg/m <sup>3</sup> 1 ppm

**Biological limit values****ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
PHENOL (CAS 108-95-2)	250 mg/g	Phenol with hydrolysis	Creatinine in urine	*

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

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

PHENOL (CAS 108-95-2) Can be absorbed through the skin.

**US - Minnesota Haz Subs: Skin designation applies**

PHENOL (CAS 108-95-2) Skin designation applies.

**US - Tennessee OELs: Skin designation**

PHENOL (CAS 108-95-2) Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**

PHENOL (CAS 108-95-2) Danger of cutaneous absorption

**US NIOSH Pocket Guide to Chemical Hazards: Skin designation**

PHENOL (CAS 108-95-2) Can be absorbed through the skin.

## US WEEL Guides: Skin designation

TRIENTINE (CAS 112-24-3)

Can be absorbed through the skin.

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

PHENOL (CAS 108-95-2)

Can be absorbed through the skin.

**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; chemical goggles (if splashing is possible).

#### 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** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**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

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Paste.
<b>Color</b>	Varies
<b>Odor</b>	Amine-like. Ammoniacal.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Alkaline
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available. estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not available. estimated
<b>Explosive limit - upper (%)</b>	Not available. estimated
<b>Vapor pressure</b>	786.28 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Partial
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	12.29 lb/gal estimated
<b>Specific gravity</b>	1.4758

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin contact</b>	Causes severe skin burns and eye damage.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	May be harmful if swallowed.

**Symptoms related to the physical, chemical and toxicological characteristics** Contact with this material will cause burns to the skin, eyes and mucous membranes.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
3-AMINOPROPYLTRIETHOXYSILANE (CAS 919-30-2)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	-	> 7.35 mg/l, 4 Hours
CYCLOHEXANAMINE, 4,4'-METHYLENEBIS- (CAS 1761-71-3)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	380 mg/kg
PHENOL (CAS 108-95-2)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rat	669 mg/kg

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

**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** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitization** Causes severe skin burns.

**Germ cell mutagenicity** Suspected of causing genetic defects.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

PHENOL (CAS 108-95-2) 3 Not classifiable as to carcinogenicity to humans.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

#### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Not available.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** The product contains a substance which is toxic to aquatic organisms.

Product	Species	Test Results	
NOVOCOAT™ EP4900 CERAMIC CARBIDE PART B			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	578.6824, 48 hours
Fish	LC50	Fish	420.0247, 96 hours
<i>Acute</i>			
Crustacea	EC50	Daphnia	61.6676, 48 hours estimated
Fish	LC50	Fish	99.36, 96 hours estimated
<b>Components</b>			
PHENOL (CAS 108-95-2)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 4.24 - <= 10.7 mg/l, 48 hours
Fish	LC50	Asiatic knifefish (Notopterus notopterus)	6.85, 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** No data available.

**Partition coefficient n-octanol / water (log Kow)**

PHENOL 1.46

**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** When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.

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

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

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

## 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)

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

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

PHENOL (CAS 108-95-2) Listed.

#### SARA 304 Emergency release notification

Phenol (CAS 108-95-2) 1000 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)
PHENOL	108-95-2	1000		500	10000

#### SARA 311/312 Hazardous chemical

Yes

##### Classified hazard categories

Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitization  
Germ cell mutagenicity  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)

#### SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
PHENOL	108-95-2	1 - 10

### Other federal regulations

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

PHENOL (CAS 108-95-2)

#### 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

PHENOL (CAS 108-95-2) Low priority

### US state regulations

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

PHENOL (CAS 108-95-2)

#### 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.

### 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)	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

Country(s) or region	Inventory name	On inventory (yes/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** 06-12-2020

**Revision date** 06-12-2023

**Version #** 03

**NFPA ratings**  
Health: 3  
Flammability: 1  
Instability: 0

**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**  
Product and Company Identification: Alternate Trade Names  
Composition / Information on Ingredients: Disclosure Overrides  
Transport Information: Material Transportation Information  
Regulatory Information: United States  
Regulatory information: California Proposition 65  
HazReg Data: North America