

# SAFETY DATA SHEET

B60VQ656

## Section 1. Identification

**Product name** : ARMORSEAL® 650 SL/RC Epoxy Coating (Part B)  
Fast Set Hardener

**Product code** : B60VQ656

**Other means of identification** : Not available.

**Product type** : Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**

Paint or paint related material.

**Manufacturer** : THE SHERWIN-WILLIAMS COMPANY  
101 W. Prospect Avenue  
Cleveland, OH 44115

**Emergency telephone number of the company** : US / Canada: (800) 424-9300  
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

**Product Information Telephone Number** : US / Canada: (800) 524-5979  
Mexico: Not Available

**Transportation Emergency Telephone Number** : US / Canada: (800) 424-9300  
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

## Section 2. Hazards identification

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Classification of the substance or mixture** : ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN CORROSION/IRRITATION - Category 1A  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
SKIN SENSITIZATION - Category 1  
TOXIC TO REPRODUCTION - Category 1B  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 55.3% (dermal), 55.3% (inhalation)

### GHS label elements

**Hazard pictograms**



**Signal word** : Danger

**Date of issue/Date of revision** : 10/2/2023 **Date of previous issue** : 9/13/2023

B60VQ656 ARMORSEAL® 650 SL/RC Epoxy Coating (Part B)  
Fast Set Hardener

**Version** : 21

1/15

SHW-85-NA-GHS-US

## Section 2. Hazards identification

<b>Hazard statements</b>	: Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness or dizziness. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
<b>Precautionary statements</b>	
<b>Prevention</b>	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.
<b>Response</b>	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. 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.
<b>Storage</b>	: Store locked up. Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. FOR INDUSTRIAL USE ONLY. This product must be mixed with other components before use. Before opening the packages, READ AND FOLLOW WARNING LABELS ON ALL COMPONENTS.  Please refer to the SDS for additional information. Keep out of reach of children. Do not transfer contents to other containers for storage.

**Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Not available.

### CAS number/other identifiers

Ingredient name	% by weight	CAS number
Phenylmethanol	≥25 - ≤49	100-51-6
Phenol, 4-Nonyl-, Branched	≥10 - ≤25	84852-15-3
Isophorone Diamine	≥10 - ≤25	2855-13-2
4,4'-Diaminodicyclohexylmethane	≥10 - ≤25	1761-71-3
n-Aminoethyl Piperazine	≥10 - ≤21	140-31-8
Reaction products of 4,4'-methylenebis(cyclohexylamine) and 2,2'-(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	≤10	38294-67-6
Phenol, 2-nonyl-, branched	≤3	91672-41-2
Aminoethylethanol Amine	≤0.3	111-41-1
Diethylenetriamine	≤0.3	111-40-0
Triethylene Tetramine	≤0.3	112-24-3

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B60VQ656 ARMORSEAL® 650 SL/RC Epoxy Coating (Part B) Fast Set Hardener		SHW-85-NA-GHS-US	

## Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

## Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

## Section 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Phenylmethanol	100-51-6	<b>OARS WEEL (United States, 4/2022).</b> TWA: 10 ppm 8 hours.
Phenol, 4-Nonyl-, Branched	84852-15-3	None.
Isophorone Diamine	2855-13-2	None.
4,4'-Diaminodicyclohexylmethane	1761-71-3	None.
n-Aminoethyl Piperazine	140-31-8	None.
Reaction products of 4,4'-methylenebis (cyclohexylamine) and 2,2'-[(1-methylethylidene)bis (4,1-phenyleneoxymethylene)]bisoxirane	38294-67-6	None.
Phenol, 2-nonyl-, branched	91672-41-2	None.
Aminoethylethanol Amine	111-41-1	None.
Diethylenetriamine	111-40-0	<b>ACGIH TLV (United States, 1/2023).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 8 hours. TWA: 4.2 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2020).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 10 hours. TWA: 4 mg/m <sup>3</sup> 10 hours.
Triethylene Tetramine	112-24-3	<b>OARS WEEL (United States, 4/2022).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 8 hours.

#### Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Benzyl alcohol	100-51-6	<b>OARS WEEL (United States, 4/2022).</b> TWA: 10 ppm 8 hours.
Diethylenetriamine	111-40-0	<b>CA Alberta Provincial (Canada, 6/2018).</b> <b>Absorbed through skin.</b> 8 hrs OEL: 4.2 mg/m <sup>3</sup> 8 hours. 8 hrs OEL: 1 ppm 8 hours. <b>CA British Columbia Provincial (Canada, 6/2022).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 8 hours. <b>CA Ontario Provincial (Canada, 6/2019).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 8 hours. <b>CA Quebec Provincial (Canada, 6/2022).</b> <b>Absorbed through skin.</b> TWA: 1 ppm 8 hours. TWA: 4.2 mg/m <sup>3</sup> 8 hours. <b>CA Saskatchewan Provincial (Canada, 7/2013).</b> <b>Absorbed through skin.</b>



## Section 8. Exposure controls/personal protection

Triethylenetetramine	112-24-3	STEL: 2 ppm 15 minutes. TWA: 1 ppm 8 hours. <b>CA Ontario Provincial (Canada, 6/2019).</b> <b>Absorbed through skin.</b> TWA: 3 mg/m <sup>3</sup> 8 hours. TWA: 0.5 ppm 8 hours.
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### Occupational exposure limits (Mexico)

	CAS #	Exposure limits
None.		

### Biological exposure indices (United States)

No exposure indices known.

### Biological exposure indices (Canada)

No exposure indices known.

### Biological exposure indices (Mexico)

No exposure indices known.

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

**Physical state** : Liquid.  
**Color** : Not available.  
**Odor** : Not available.  
**Odor threshold** : Not available.  
**pH** : Not applicable.  
**Melting point/freezing point** : Not available.  
**Boiling point, initial boiling point, and boiling range** : 202°C (395.6°F)  
**Flash point** : Closed cup: 100°C (212°F) [Pensky-Martens Closed Cup]  
**Evaporation rate** : Not available.  
**Flammability** : Not available.  
**Lower and upper explosion limit/flammability limit** : Lower: 1.3%  
Upper: 13%  
**Vapor pressure** : 0.02 kPa (0.15 mm Hg)  
**Relative vapor density** : 3.72 [Air = 1]  
**Relative density** : 1  
**Solubility(ies)** :

Media	Result
cold water	Not soluble

**Partition coefficient: n-octanol/water** : Not applicable.  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.  
**Viscosity** : Kinematic (40°C (104°F)): >20.5 mm<sup>2</sup>/s (>20.5 cSt)  
**Molecular weight** : Not applicable.  
**Heat of combustion** : 17.27 kJ/g

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : No specific data.



## Section 10. Stability and reactivity

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Phenylmethanol	LD50 Dermal	Rabbit	2000 mg/kg	-
	LD50 Oral	Rat	1230 mg/kg	-
Phenol, 4-Nonyl-, Branched	LD50 Oral	Rat	1300 mg/kg	-
Aminoethylethanol Amine	LD50 Dermal	Rat	2250 mg/kg	-
	LD50 Oral	Rat	3 g/kg	-
Diethylenetriamine	LD50 Dermal	Rabbit	1090 mg/kg	-
	LD50 Oral	Rat	1080 mg/kg	-
Triethylene Tetramine	LD50 Dermal	Rabbit	805 mg/kg	-
	LD50 Oral	Rat	2500 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Phenylmethanol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
Phenol, 4-Nonyl-, Branched	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-
4,4'-Diaminodicyclohexylmethane	Eyes - Severe irritant	Rabbit	-	24 hours 10 uL	-
n-Aminoethyl Piperazine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-
Aminoethylethanol Amine	Eyes - Severe irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Rabbit	-	445 mg	-
Diethylenetriamine	Skin - Moderate irritant	Rabbit	-	500 mg	-
Triethylene Tetramine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Eyes - Severe irritant	Rabbit	-	49 mg	-
	Skin - Severe irritant	Rabbit	-	490 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 mg	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

## Section 11. Toxicological information

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Phenylmethanol	Category 3	-	Respiratory tract irritation
Aminoethylethanol Amine	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)



Name	Category	Route of exposure	Target organs
Phenylmethanol	Category 2	-	-
4,4'-Diaminodicyclohexylmethane	Category 2	-	-

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. 
- Skin contact** : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction. 
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 11. Toxicological information

**Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

**General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : May damage the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : Suspected of damaging fertility.

### Numerical measures of toxicity

#### Acute toxicity estimates

Route	ATE value
Oral	855.24 mg/kg
Dermal	1873.03 mg/kg
Inhalation (vapors)	18.06 mg/l

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Phenylmethanol Phenol, 4-Nonyl-, Branched	Acute LC50 10 ppm Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Acute EC50 0.03 mg/l Marine water	Algae - <i>Skeletonema costatum</i>	72 hours
	Acute EC50 0.027 mg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 0.044 mg/l	Crustaceans - <i>Moina macrocopa</i>	48 hours
	Acute LC50 17 µg/l Marine water	Fish - <i>Pleuronectes americanus</i> - Larvae	96 hours
	Chronic EC10 0.012 mg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Chronic NOEC 5 µg/l Fresh water	Crustaceans - <i>Gammarus fossarum</i> - Adult	21 days
	Chronic NOEC 7.4 µg/l Fresh water	Fish - <i>Pimephales promelas</i> - Embryo	33 days
Isophorone Diamine	Acute EC50 17.4 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

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B60VQ656	ARMORSEAL® 650 SL/RC Epoxy Coating (Part B) Fast Set Hardener	SHW-85-NA-GHS-US	

## Section 12. Ecological information

n-Aminoethyl Piperazine	Acute LC50 2190000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
Diethylenetriamine	Acute LC50 53500 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
Triethylene Tetramine	Acute LC50 1014000 µg/l Fresh water	Fish - <i>Poecilia reticulata</i>	96 hours
	Acute LC50 33900 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

### Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Phenylmethanol	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Phenol, 4-Nonyl-, Branched	-	740	High
Aminoethylethanol Amine	-	<0.2	Low
Diethylenetriamine	-	2.8 to 6.3	Low

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Other adverse effects : No known significant effects or critical hazards.







## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN3066	UN3066	UN3066	UN3066	UN3066
UN proper shipping name	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL	PAINT RELATED MATERIAL. Marine pollutant (Phenol, 4-Nonyl-, Branched, Reaction products of 4,4'-methylenebis (cyclohexylamine) and 2,2'-(1-methylethylidene)

## Section 14. Transport information

					bis (4,1-phenyleneoxymethylene)] bisoxirane)
<b>Transport hazard class(es)</b>	8 	8 	8 	8 	8  
<b>Packing group</b>	II	II	II	II	II
<b>Environmental hazards</b>	No.	No.	No.	Yes. The environmentally hazardous substance mark is not required.	Yes.
<b>Additional information</b>	-  <b>ERG No.</b> 153	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8).  <b>ERG No.</b> 153	-  <b>ERG No.</b> 153	The environmentally hazardous substance mark may appear if required by other transportation regulations.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Emergency schedules</b> F-A, S-B

**Special precautions for user :** Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

**Transport in bulk according to IMO instruments :** Not available.

**Proper shipping name :** Not available.

## Section 15. Regulatory information

**TSCA 5(a)2 proposed significant new use rules:** Phenol, 4-Nonyl-, Branched; Phenol, 2-nonyl-, branched

### SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

### California Prop. 65

Not applicable.

### International regulations

## Section 15. Regulatory information

### [Montreal Protocol](#)

Not listed.

### [Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

### [International lists](#)

: **Australia inventory (AII)**: Not determined.  
**China inventory (IECSC)**: Not determined.  
**Japan inventory (CSCL)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.  
**Korea inventory (KECI)**: Not determined.  
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.  
**Philippines inventory (PICCS)**: Not determined.  
**Taiwan Chemical Substances Inventory (TCSI)**: Not determined.  
**Thailand inventory**: Not determined.  
**Turkey inventory**: Not determined.  
**Vietnam inventory**: Not determined.

## Section 16. Other information

### [Hazardous Material Information System \(U.S.A.\)](#)

Health	*	3
Flammability		1
Physical hazards		0

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

### [Procedure used to derive the classification](#)

Classification	Justification
ACUTE TOXICITY (oral) - Category 4	Calculation method
ACUTE TOXICITY (dermal) - Category 4	Calculation method
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 1A	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

### [History](#)

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**Version** : 21

## Section 16. Other information

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973  
as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.