

## Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

**Initial Preparation Date:** 04.10.2019

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**Revision date:** 02.11.2025

### RhinoCoat FM (Flexible Membrane) Epoxy Hardener

#### SECTION 1: Identification

##### Product Identifier

**Product Name:** RhinoCoat FM (Flexible Membrane) Epoxy Hardener

**Product code:** RF200-FM-B

##### Recommended Use of the Product and Restriction on Use

**Relevant Identified Uses:** EPOXY SYSTEM - Hardener Component

**Uses Advised Against:** Not determined or not applicable.

**Reasons Why Uses Advised Against:** Not determined or not applicable.

##### Manufacturer or Supplier Details

###### Manufacturer:

###### United States

Rhino Linings Corporation  
9747 Businesspark Avenue  
San Diego, CA 92131  
858-450-0441  
www.rhinolinings.com

##### Emergency Telephone Number:

###### North America

CHEMTREC  
800-424-9300 (24/7)

#### SECTION 2: Hazard(s) Identification

##### GHS Classification:

Acute toxicity (oral), category 4

Acute toxicity (dermal), category 4

Acute toxicity (inhalation), category 4

Skin corrosion, category 1B

Serious eye damage, category 1

Skin sensitization, category 1

Reproductive toxicity, category 2

Specific target organ toxicity - repeated exposure, category 1

Chronic aquatic hazard, category 2

##### Label elements

###### Hazard Pictograms:



**Signal Word:** Danger

##### Hazard statements:

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H314 Causes severe skin burns and eye damage  
H318 Causes serious eye damage  
H317 May cause an allergic skin reaction  
H302 Harmful if swallowed  
H312 Harmful in contact with skin  
H361 Suspected of damaging fertility or the unborn child.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H332 Harmful if inhaled  
H411 Toxic to aquatic life with long lasting effects

#### Precautionary Statements:

P201 Obtain special instructions before use  
P202 Do not handle until all safety precautions have been read and understood  
P260 Do not breathe dust, fumes, gas, mist, vapors or spray.  
P264 Wash any exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product  
P271 Use only outdoors or in a well-ventilated area  
P272 Contaminated work clothing must not be allowed out of the workplace  
P280 Wear protective gloves, protective clothing, eye protection and face protection.  
P273 Avoid release to the environment  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with shower.  
P310 Immediately call a POISON CENTER.  
P321 Specific treatment (see Sections 4-8 of this SDS and any supplemental information on the product label).  
P363 Wash contaminated clothing before reuse  
P333+P313 If skin irritation or rash occurs: Get medical advice or attention.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 If exposed or concerned: Get medical advice/attention.  
P314 Get medical advice or attention if you feel unwell.  
P391 Collect spillage  
P405 Store locked up  
P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

**Hazards Not Otherwise Classified:** None

### SECTION 3: Composition/Information on Ingredients

| Identification             | Name                       | Weight % |
|----------------------------|----------------------------|----------|
| CAS Number:<br>84852-15-3  | 4-nonylphenol, branched    | 40-50    |
| CAS Number:<br>91672-41-2  | Phenol, 2-nonyl-, branched | 5-10     |
| CAS Number:<br>Proprietary | Polyamide                  | 10-20    |

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|                            |                                                                                                                        |       |
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| CAS Number:<br>100-51-6    | Benzyl Alcohol                                                                                                         | 1-5   |
| CAS Number:<br>112-24-3    | Triethylenetetramine                                                                                                   | 1-5   |
| CAS Number:<br>69-72-7     | Salicylic acid                                                                                                         | 0.1-1 |
| CAS Number:<br>Proprietary | Cycloaliphatic Amines                                                                                                  | 1-5   |
| CAS Number:<br>Proprietary | Tertiary amine                                                                                                         | 1-5   |
| CAS Number:<br>68683-29-4  | 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | 5-10  |
| CAS Number:<br>140-31-8    | 1-Piperazineethanamine                                                                                                 | 5-10  |

#### Additional Information:

Specific chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold.

### SECTION 4: First Aid Measures

#### Description of First Aid Measures

##### General Notes:

Show this Safety Data Sheet to the doctor in attendance.

##### After Inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

##### After Skin Contact:

Treatment is urgent. Seek emergency medical treatment. Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse.

##### After Eye Contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

##### After Swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

#### Most Important Symptoms and Effects, Both Acute and Delayed

##### Acute Symptoms and Effects:

Exposure to skin may result in redness, pain, burning, inflammation and tissue damage. Exposure to eyes may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and

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loss of vision. Exposure via inhalation may result in cough, sore throat, burning sensation and shortness of breath. Exposure via ingestion may result in burns of the mouth and throat, abdominal pain, burning sensation in the throat and chest, nausea, vomiting, shock or collapse.

#### Delayed Symptoms and Effects:

Effects are dependent on exposure (dose, concentration, contact time).

Long term exposure may affect fertility. Symptoms include, but are not limited to: menstrual problems, altered sexual behavior/fertility/ and pregnancy outcome. Long term exposure may also affect development of the unborn child. Symptoms include, but are not limited to: intrauterine growth retardation, pre-term birth, birth defects and postnatal death.

Causes damage to organs through prolonged or repeated exposure. Effects are dependent on exposure (dose, concentration, contact time).

Symptoms of exposure may be delayed.

#### Immediate Medical Attention and Special Treatment

##### Specific Treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

In case of skin contact, seek prompt medical attention while rinsing is continued.

In case of ingestion, seek prompt medical attention.

##### Notes for the Doctor:

Treat symptomatically.

### SECTION 5: Firefighting Measures

#### Extinguishing Media

##### Suitable Extinguishing Media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

##### Unsuitable Extinguishing Media:

Do not use water jet.

#### Specific Hazards During Fire-Fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

#### Special Protective Equipment for Firefighters:

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

#### Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

### SECTION 6: Accidental Release Measures

#### Personal Precautions, Protective Equipment, and Emergency Procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

#### Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways.

Discharge into the environment must be avoided.

#### Methods and Material for Containment and Cleaning Up:

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Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

#### Reference to Other Sections:

For personal protective equipment see Section 8. For disposal see Section 13.

### SECTION 7: Handling and Storage

#### Precautions for Safe Handling:

Use appropriate personal protective equipment (see Section 8). Prevent skin contact. Do not get in eyes. Use only with adequate ventilation. Do not add water to the corrosive product. If it is necessary to mix a corrosive product with water, do so slowly adding the corrosive to cold water, in small amounts, and stir frequently. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use. Keep only in original packaging.

#### Conditions for Safe Storage, Including Any Incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight and away from exit paths. Store in a corrosion-resistant container with a resistant inner liner. Inspect containers and storage area regularly for signs of leak and damage. Store containers at a convenient height for handling, below eye level if possible. High shelving increases the risk of dropping containers, personal injury and exposure. Ensure that appropriate fire fighting and spill-clean up equipment is readily available. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Store separately. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

Recommended storage temperature: 16-32°C (60-90°F).

### SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

#### Occupational Exposure Limit Values:

| Country (Legal Basis) | Substance            | Identifier | Permissible concentration                   |
|-----------------------|----------------------|------------|---------------------------------------------|
| WEEL                  | Benzyl Alcohol       | 100-51-6   | 8-Hour TWA: 44.2 mg/m <sup>3</sup> (10 ppm) |
|                       | Triethylenetetramine | 112-24-3   | 8-Hour TWA: 1 ppm                           |
|                       | Triethylenetetramine | 112-24-3   | 8-Hour TWA: 6 mg/m <sup>3</sup>             |

#### Biological Limit Values:

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

#### Information on Monitoring Procedures:

Not determined or not applicable.

#### Appropriate Engineering Controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

#### Personal Protection Equipment

##### Eye and Face Protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection.

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Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

#### Skin and Body Protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. 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. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Full body protection should be worn. 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. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

#### Respiratory Protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

#### General Hygienic Measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

## SECTION 9: Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| Appearance                              | Liquid                           |
| Odor                                    | Ammoniacal                       |
| Odor threshold                          | Not determined or not available. |
| pH                                      | 10-12 (Alkaline)                 |
| Melting point/freezing point            | Not determined or not available. |
| Initial boiling point/range             | >177°C (350°F)                   |
| Flash point (closed cup)                | >116°C (240°F)                   |
| Evaporation rate                        | Not determined or not available. |
| Flammability (solid, gas)               | Not determined or not available. |
| Upper flammability/explosive limit      | Not determined or not available. |
| Lower flammability/explosive limit      | Not determined or not available. |
| Vapor pressure                          | Not determined or not available. |
| Vapor density                           | Not determined or not available. |
| Density                                 | Not determined or not available. |
| Relative density                        | Not determined or not available. |
| Solubilities                            | Not determined or not available. |
| Partition coefficient (n-octanol/water) | Not determined or not available. |
| Auto/Self-ignition temperature          | Not determined or not available. |
| Decomposition temperature               | Not determined or not available. |
| Dynamic viscosity                       | Not determined or not available. |
| Kinematic viscosity                     | Not determined or not available. |

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|                      |                                  |
|----------------------|----------------------------------|
| Explosive properties | Not determined or not available. |
| Oxidizing properties | Not determined or not available. |

## SECTION 10: Stability and Reactivity

### Reactivity:

Not reactive under recommended handling and storage conditions.

### Chemical Stability:

Stable under recommended handling and storage conditions.

### Possibility of Hazardous Reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Stable under recommended handling and storage conditions.

### Conditions to Avoid:

Avoid generation of aerosols and mists, extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

### Incompatible Materials:

N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Sodium hypochlorite. Organic acids (i.e. acetic acid, citric acid etc.). Mineral Acid Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Oxidizing agents.

### Hazardous Decomposition Products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced. In fire conditions, depending on temperature, air supply and presence of other materials, decomposition products can include, but are not limited to Nitric Acid, Ammonia, Nitrogen Oxides, Nitrogen oxide can react with water vapors to form corrosive nitric acid, carbon monoxide, Carbon dioxide, or Nitrosamine.

## SECTION 11: Toxicological Information

### Acute Toxicity

#### Assessment:

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

**Product Data:** No data available.

#### Substance Data:

| Name                    | Route      | Result                                 |
|-------------------------|------------|----------------------------------------|
| Benzyl Alcohol          | oral       | LD50 Rat: 1610 mg/kg                   |
|                         | inhalation | LC50 Rat: >4.178 mg/L (4 hr [aerosol]) |
|                         | dermal     | LD50 Rabbit: >2000 mg/kg               |
| Triethylenetetramine    | oral       | LD50 Rat: 1591.4 mg/kg                 |
|                         | dermal     | LD50 Rabbit: 1465.4 mg/kg              |
| Salicylic acid          | oral       | LD50 Rat: 891 mg/kg                    |
|                         | dermal     | LD50 Rat: > 2000 mg/kg                 |
| 4-nonylphenol, branched | oral       | LD50 Rat: 1246 mg/kg                   |
|                         | dermal     | LD50 Rabbit: 2031 mg/kg                |

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| Name                       | Route    | Result                 |
|----------------------------|----------|------------------------|
| Phenol, 2-nonyl-, branched | Oral ATE | LD50 Rat: 500 mg/kg    |
| 1-Piperazineethanamine     | oral     | LD50 Rat: >1000 mg/kg  |
|                            | dermal   | LD50 Rabbit: 866 mg/kg |

#### Skin Corrosion/Irritation

##### Assessment:

Causes severe skin burns and eye damage.

##### Product Data:

No data available.

##### Substance Data:

| Name                                                                                                                   | Result                    |
|------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Triethylenetetramine                                                                                                   | Causes severe skin burns. |
| 4-nonylphenol, branched                                                                                                | Causes severe skin burns. |
| Phenol, 2-nonyl-, branched                                                                                             | Causes severe skin burns. |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Causes skin irritation.   |
| 1-Piperazineethanamine                                                                                                 | Causes severe skin burns. |

#### Serious Eye Damage/Irritation

##### Assessment:

Causes serious eye damage.

##### Product Data:

No data available.

##### Substance Data:

| Name                       | Result                         |
|----------------------------|--------------------------------|
| Benzyl Alcohol             | Causes serious eye irritation. |
| Triethylenetetramine       | Causes serious eye damage.     |
| Salicylic acid             | Causes serious eye damage.     |
| 4-nonylphenol, branched    | Causes serious eye damage.     |
| Phenol, 2-nonyl-, branched | Causes serious eye damage.     |
| 1-Piperazineethanamine     | Causes serious eye damage.     |

#### Respiratory or Skin Sensitization

##### Assessment:

May cause an allergic skin reaction.

##### Product Data:

No data available.

##### Substance Data:

| Name                 | Result                               |
|----------------------|--------------------------------------|
| Triethylenetetramine | May cause an allergic skin reaction. |

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| Name                                                                                                                   | Result                               |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | May cause an allergic skin reaction. |
| 1-Piperazineethanamine                                                                                                 | May cause an allergic skin reaction. |

#### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

**Substance Data:** No data available.

#### International Agency for Research on Cancer (IARC):

| Name                                                                                                                   | Classification |
|------------------------------------------------------------------------------------------------------------------------|----------------|
| Benzyl Alcohol                                                                                                         | Not Applicable |
| Triethylenetetramine                                                                                                   | Not Applicable |
| Salicylic acid                                                                                                         | Not Applicable |
| 4-nonylphenol, branched                                                                                                | Not Applicable |
| Phenol, 2-nonyl-, branched                                                                                             | Not Applicable |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Not Applicable |
| 1-Piperazineethanamine                                                                                                 | Not Applicable |

#### National Toxicology Program (NTP):

| Name                                                                                                                   | Classification |
|------------------------------------------------------------------------------------------------------------------------|----------------|
| Benzyl Alcohol                                                                                                         | Not Applicable |
| Triethylenetetramine                                                                                                   | Not Applicable |
| Salicylic acid                                                                                                         | Not Applicable |
| 4-nonylphenol, branched                                                                                                | Not Applicable |
| Phenol, 2-nonyl-, branched                                                                                             | Not Applicable |
| 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Not Applicable |
| 1-Piperazineethanamine                                                                                                 | Not Applicable |

**OSHA Carcinogens:** Not applicable

#### Germ Cell Mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

#### Reproductive Toxicity

**Assessment:**

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Suspected of damaging fertility or the unborn child.

#### Product Data:

No data available.

#### Substance Data:

| Name                       | Result                                               |
|----------------------------|------------------------------------------------------|
| Salicylic acid             | Suspected of damaging the unborn child.              |
| 4-nonylphenol, branched    | Suspected of damaging fertility or the unborn child. |
| Phenol, 2-nonyl-, branched | Suspected of damaging fertility or the unborn child. |
| 1-Piperazineethanamine     | Suspected of damaging fertility or the unborn child. |

#### Specific Target Organ Toxicity (Single Exposure)

**Assessment:** Based on available data, the classification criteria are not met.

#### Product Data:

No data available.

**Substance Data:** No data available.

#### Specific Target Organ Toxicity (Repeated Exposure)

#### Assessment:

Causes damage to organs through prolonged or repeated exposure.

#### Product Data:

Mixed polycycloaliphatic amines was tested in rats for systemic effects in a subchronic (28-day) oral study at doses ranging from 15 to 300 mg/kg/day. Effects seen at 300 mg/kg/day included decreased survival, decreased body weight gain, increased liver, kidney, and adrenal weights and histological changes in the liver, kidney, adrenals and spleen. The No-Observed-Adverse-Effect-Level (NOAEL) was 15 mg/kg/day. Rats exposed orally to 800 mg/kg benzyl alcohol for thirteen weeks exhibited CNS depression and histopathological changes in the brain, thymus and skeletal muscles. The No Observed Adverse Effect Level (NOAEL) was 400 mg/kg. No evidence of carcinogenicity was seen in a two-year study with rats and mice.

#### Substance Data:

| Name                   | Result                                                          |
|------------------------|-----------------------------------------------------------------|
| 1-Piperazineethanamine | Causes damage to organs through prolonged or repeated exposure. |

#### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

#### Product Data:

No data available.

**Substance Data:** No data available.

#### Information on Likely Routes of Exposure:

No data available.

#### Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:

No data available.

#### Other Information:

No data available.

### SECTION 12: Ecological Information

#### Acute (Short-Term) Toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

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#### Substance Data:

| Name                       | Result                                                                                                  |
|----------------------------|---------------------------------------------------------------------------------------------------------|
| Benzyl Alcohol             | Fish LC50 Pimephales promelas: 460 mg/L (96 hr [mortality])                                             |
|                            | Aquatic Invertebrates EC50 Daphnia magna: 230 mg/L (48 hr [mobility])                                   |
|                            | Aquatic Plants EC50 Raphidocelis subcapitata: 770 mg/L (72 hr [growth rate])                            |
| Triethylenetetramine       | Aquatic Invertebrates EC50 Daphnia magna: 31.1 mg/L (48 hr [mobility, Read-across substance data])      |
|                            | Fish LC50 Pimephales promelas: 330 mg/L (96hr [Read-across substance data])                             |
|                            | Aquatic Plants EC50 Raphidocelis subcapitata: 20 mg/L (72 hr [growth rate, Read-across substance data]) |
| Salicylic acid             | Aquatic Invertebrates EC50 Daphnia magna: 870 mg/L (48 hr [mobility])                                   |
|                            | Fish LC50 Pimephales promelas: 1370 mg/L (96 hr [mortality; read-across substance data])                |
|                            | Aquatic Plants EC50 Desmodemus subspicatus: >100 mg/L (72 hr)                                           |
| 4-nonylphenol, branched    | Fish LC50 Pimephales promelas: 0.128 mg/L (96 hr [Read-across substance data])                          |
|                            | Aquatic Invertebrates EC50 Daphnia magna: 0.0844 mg/L (48 hr [mortality, Read-across substance data])   |
|                            | Aquatic Plants EC50 Desmodemus subspicatus: 1.3 mg/L (72 hr [biomass, Read-across substance data])      |
| Phenol, 2-nonyl-, branched | Aquatic Invertebrates EC50 Daphnia magna: 0.13 mg/L (48 hr [immobilization; read-across])               |
| 1-Piperazineethanamine     | Aquatic Plants EC50 Raphidocelis subcapitata: >1000 mg/L (72 hr [growth rate])                          |
|                            | Aquatic Invertebrates EC50 Daphnia magna: 58 mg/L (48 hr [mobility])                                    |
|                            | Fish LC50 Oncorhynchus mykiss: >100 mg/L (96 hr)                                                        |

#### Chronic (Long-Term) Toxicity

##### Assessment:

Toxic to aquatic life with long lasting effects.

**Product Data:** No data available.

##### Substance Data:

| Name                    | Result                                                                                           |
|-------------------------|--------------------------------------------------------------------------------------------------|
| Benzyl Alcohol          | Fish NOEC Freshwater fish: 48.897 mg/L (30 d [mortality, QSAR substance data])                   |
|                         | Aquatic Invertebrates NOEC Daphnia magna: 51 mg/L (21 d [reproduction])                          |
| Salicylic acid          | Aquatic Invertebrates NOEC Daphnia magna: 10 mg/L (21 d [reproduction])                          |
| 4-nonylphenol, branched | Fish NOEC Pimephales promelas: 0.038 mg/L (28 d [growth rate, Read-across substance data])       |
|                         | Aquatic Invertebrates NOEC Daphnia magna: 0.024 mg/L (21 d [growth, Read-across substance data]) |

#### Persistence and Degradability

**Product Data:** No data available.

##### Substance Data:

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| Name                       | Result                                                                                                                                                     |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Benzyl Alcohol             | The substance is readily biodegradable. 92 - 96% degradation in water, measured by O <sub>2</sub> consumption after 14 days.                               |
| Salicylic acid             | The substance is inherently biodegradable. >90% degradation in water, measured by DOC removal, after 4 days.                                               |
| Triethylenetetramine       | The substance is not readily biodegradable. <30% degradation in water, measured by O <sub>2</sub> consumption, after 28 days (Read-across substance data). |
| 4-nonylphenol, branched    | The substance is inherently biodegradable. 48.2% degradation in water, measured by CO <sub>2</sub> evolution, after 35 days.                               |
| Phenol, 2-nonyl-, branched | The substance is not readily biodegradable. 50% degradation, measured by labelled carbon dioxide, after 58 days.                                           |
| 1-Piperazineethanamine     | The substance is not readily biodegradable. 0% degradation in water, measured by CO <sub>2</sub> evolution, after 28 days.                                 |

#### Bioaccumulative Potential

**Product Data:** No data available.

**Substance Data:**

| Name                    | Result                                                                                                                                        |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Salicylic acid          | The substance is not expected to bioaccumulate (log K <sub>ow</sub> =2.65).                                                                   |
| Benzyl Alcohol          | The substance is not expected to bioaccumulate (log P <sub>ow</sub> = 1 at 20 °C and BCF= 1. 1.371 L/kg- QSAR data).                          |
| Triethylenetetramine    | The substance is not expected to bioaccumulate (log P <sub>ow</sub> : -2.65 at 25 °C, QSAR substance data).                                   |
| 4-nonylphenol, branched | The substance has the potential to bioaccumulate (BCF: 896 dimensionless, aquatic organisms: fish).                                           |
| 1-Piperazineethanamine  | The substance is not expected to be bioaccumulative (BCF: > 2.8 - <= 6.3, basis : whole body w.w., specie: fish, Read-across substance data). |

#### Mobility in Soil

**Product Data:** No data available.

**Substance Data:**

| Name                       | Result                                                                                                                                                                         |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Benzyl Alcohol             | The substance is mobile, therefore, adsorption to soil is not expected (log K <sub>oc</sub> = 1.332 L/kg, QSAR substance data).                                                |
| Salicylic acid             | The substance is mobile, therefore, there is low potential for adsorption to soil and sediment (log K <sub>oc</sub> : 1.54).                                                   |
| Triethylenetetramine       | The substance is slightly mobile, therefore, adsorption to soil and sediment is expected (log K <sub>oc</sub> : 3.7 dimensionless, Read-across substance data).                |
| 4-nonylphenol, branched    | The substance is hardly mobile, therefore, there is a high potential for adsorption to soil and sediment (K <sub>oc</sub> : 11,060 dimensionless, Read-across substance data). |
| Phenol, 2-nonyl-, branched | The substance has a high potential for adsorption to soil and sediment. K <sub>oc</sub> at 20 °C: 38,260 [read-across]                                                         |
| 1-Piperazineethanamine     | The substance is hardly mobile, therefore, there is a high potential for adsorption to soil and sediment (log K <sub>oc</sub> :4.57, Read-across substance data).              |

#### Results of PBT and vPvB assessment

**Product Data:**

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**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

#### Substance Data:

##### PBT assessment:

|                         |                           |
|-------------------------|---------------------------|
| Benzyl Alcohol          | The substance is not PBT. |
| Salicylic acid          | The substance is not PBT. |
| 4-nonylphenol, branched | The substance is not PBT. |
| 1-Piperazineethanamine  | The substance is not PBT. |

##### vPvB assessment:

|                         |                            |
|-------------------------|----------------------------|
| Benzyl Alcohol          | The substance is not vPvB. |
| Salicylic acid          | The substance is not vPvB. |
| 4-nonylphenol, branched | The substance is not vPvB. |
| 1-Piperazineethanamine  | The substance is not vPvB. |

#### Other Adverse Effects:

Do not allow to enter soil, waterways or waste water canal.

### SECTION 13: Disposal Considerations

#### Disposal Methods:

The generation of waste should be avoided or minimized wherever possible. If product becomes a waste, it does not meet criteria of hazardous waste as defined in 40 CFR 261, Subpart C and D. Do not discharge into sewer system. Spill cleanup residues may still be subject to RCRA storage and disposal requirements.

Dispose waste in compliance with local, state and federal regulations via licensed waste disposal contractor.

#### Contaminated packages:

Even after emptying, container may retain residues. Containers should be completely emptied and safely stored until appropriately reconditioned or disposed through licensed contractor in accordance with government regulation. This material and its container must be disposed of in a safe way.

### SECTION 14: Transport Information

#### United States Transportation of Dangerous Goods (49 CFR DOT)

|                               |                                                                                         |
|-------------------------------|-----------------------------------------------------------------------------------------|
| UN Number                     | UN1760                                                                                  |
| UN Proper Shipping Name       | CORROSIVE LIQUIDS, N.O.S. (CONTAINS NONYLPHENOL, N-AMINOETHYLPIPERAZINE)                |
| UN Transport Hazard Class(es) | 8  |
| Packing Group                 | III                                                                                     |
| Environmental Hazards         | Marine Pollutant                                                                        |
| Special Precautions for User  | None                                                                                    |

#### International Maritime Dangerous Goods (IMDG)

|                         |                                                                 |
|-------------------------|-----------------------------------------------------------------|
| UN Number               | UN1760                                                          |
| UN Proper Shipping Name | CORROSIVE, LIQUID, N.O.S. (NONYLPHENOL, N-AMINOETHYLPIPERAZINE) |

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|                               |                  |                                                                                                                                                                         |
|-------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN Transport Hazard Class(es) | 8                |   |
| Packing Group                 | III              |                                                                                                                                                                         |
| Environmental Hazards         | Marine Pollutant |                                                                                                                                                                         |
| Special Precautions for User  | None             |                                                                                                                                                                         |

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

|                               |                                                                          |                                                                                                                                                                         |
|-------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN Number                     | UN1760                                                                   |                                                                                                                                                                         |
| UN Proper Shipping Name       | CORROSIVE, LIQUID, N.O.S. (CONTAINS NONYLPHENOL, N-AMINOETHYLPIPERAZINE) |                                                                                                                                                                         |
| UN Transport Hazard Class(es) | 8                                                                        |   |
| Packing Group                 | III                                                                      |                                                                                                                                                                         |
| Environmental Hazards         | Marine Pollutant                                                         |                                                                                                                                                                         |
| Special Precautions for User  | None                                                                     |                                                                                                                                                                         |

## SECTION 15: Regulatory Information

### United States Regulations

**Inventory Listing (TSCA):** All ingredients are listed-active or exempt.

#### Significant New Use Rule (TSCA Section 5):

|            |                                                                                                                        |            |
|------------|------------------------------------------------------------------------------------------------------------------------|------------|
| 100-51-6   | Benzyl Alcohol                                                                                                         | Not Listed |
| 112-24-3   | Triethylenetetramine                                                                                                   | Not Listed |
| 69-72-7    | Salicylic acid                                                                                                         | Not Listed |
| 84852-15-3 | 4-nonylphenol, branched                                                                                                | Listed     |
| 91672-41-2 | Phenol, 2-nonyl-, branched                                                                                             | Listed     |
| 68683-29-4 | 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Not Listed |
| 140-31-8   | 1-Piperazineethanamine                                                                                                 | Not Listed |

#### Export Notification under TSCA Section 12(b):

|            |                                                                                                                        |            |
|------------|------------------------------------------------------------------------------------------------------------------------|------------|
| 100-51-6   | Benzyl Alcohol                                                                                                         | Not Listed |
| 112-24-3   | Triethylenetetramine                                                                                                   | Not Listed |
| 69-72-7    | Salicylic acid                                                                                                         | Not Listed |
| 84852-15-3 | 4-nonylphenol, branched                                                                                                | Listed     |
| 91672-41-2 | Phenol, 2-nonyl-, branched                                                                                             | Listed     |
| 68683-29-4 | 2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated | Not Listed |

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|          |                        |            |
|----------|------------------------|------------|
| 140-31-8 | 1-Piperazineethanamine | Not Listed |
|----------|------------------------|------------|

**SARA Section 302 Extremely Hazardous Substances:** None of the ingredients are listed.

**SARA Section 313 Toxic Chemicals:**

|            |                            |        |
|------------|----------------------------|--------|
| 84852-15-3 | 4-nonylphenol, branched    | Listed |
| 91672-41-2 | Phenol, 2-nonyl-, branched | Listed |

**CERCLA:** None of the ingredients are listed.

**RCRA:** None of the ingredients are listed.

**Section 112(r) of the Clean Air Act (CAA):** None of the ingredients are listed.

**Massachusetts Right to Know:**

|            |                            |        |
|------------|----------------------------|--------|
| 100-51-6   | Benzyl Alcohol             | Listed |
| 112-24-3   | Triethylenetetramine       | Listed |
| 91672-41-2 | Phenol, 2-nonyl-, branched | Listed |
| 140-31-8   | 1-Piperazineethanamine     | Listed |

**New Jersey Right to Know:**

|          |                        |        |
|----------|------------------------|--------|
| 112-24-3 | Triethylenetetramine   | Listed |
| 140-31-8 | 1-Piperazineethanamine | Listed |

**New York Right to Know:**

|            |                         |        |
|------------|-------------------------|--------|
| 112-24-3   | Triethylenetetramine    | Listed |
| 84852-15-3 | 4-nonylphenol, branched | Listed |
| 140-31-8   | 1-Piperazineethanamine  | Listed |

**Pennsylvania Right to Know:**

|            |                            |        |
|------------|----------------------------|--------|
| 100-51-6   | Benzyl Alcohol             | Listed |
| 112-24-3   | Triethylenetetramine       | Listed |
| 91672-41-2 | Phenol, 2-nonyl-, branched | Listed |
| 140-31-8   | 1-Piperazineethanamine     | Listed |

**California Proposition 65:** None of the ingredients are listed.

**Additional information:** Not determined.

### SECTION 16: Other Information

**Abbreviations and Acronyms:** None

#### Disclaimer:

The data set forth in this sheet are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Rhino Linings Corporation makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereof. Sections 11/12 Disclaimer (Toxicity/Ecotoxicity): This product itself has not been tested. Information given is based on data on the components and the toxicology of similar products. Section 14 (Transport Information): Information provided in Section 14 is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

**NFPA:** 3-1-0

**HMIS:** 3\*-1-0

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#### Revision Notes:

| Revision Date | Notes                                      |
|---------------|--------------------------------------------|
| 2019-04-10    | New Product                                |
| 2025-02-11    | Internal Review / New SDS Software Program |

**End of Safety Data Sheet**