Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial Preparation Date: 03.26.2015

Revision date: 04.24.2024

Rhino H595 Epoxy Hardener

SECTION 1: Identification

Product Identifier

Product Name: Rhino H595 Epoxy Hardener

Product code: H595

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 2
Skin corrosion, category 1B
Serious eye damage, category 1
Skin sensitization, category 1
Reproductive toxicity, category 1B
Specific target organ toxicity - single exposure, category 3, respiratory tract irritation
Acute aquatic hazard, category 3
Chronic aquatic hazard, category 3

Label elements

Hazard Pictograms:

Signal Word: Danger

Hazard statements:

H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H360 May damage fertility or the unborn child.
H335 May cause respiratory irritation
H302 Harmful if swallowed
H312 Harmful in contact with skin
H330 Fatal if inhaled
H412 Harmful to aquatic life with long lasting effects
H402 Harmful to aquatic life

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.
P284 In case of inadequate ventilation wear respiratory protection.
P273 Avoid release to the environment
P310 Immediately call a POISON CENTER/physician.
P320 Specific treatment is urgent (see Sections 4-8 of this SDS and any supplemental information on the product label).
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 water.
P333+P313 If skin irritation or rash occurs: Get medical advice or attention.
P363 Wash contaminated clothing before reuse
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 or attention.
P405 Store locked up
P403+P233 Store in a well-ventilated place. Keep container tightly closed
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: 111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	60-70
CAS Number: 80-05-7	Bisphenol A	10-20

CAS Number: 112-24-3	Triethylenetetramine	1-10
CAS Number: 2855-13-2	Isophorone diamine	1-10
CAS Number: 84852-15-3	4-nonylphenol, branched	1-10
CAS Number: 91672-41-2	Phenol, 2-nonyl-, branched	0.1-2

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. This product is toxic by one or more routes of exposure (inhalation, ingestion, skin contact). Take precautions to ensure your own safety before attempting rescue. Wear appropriate safety eyewear, gloves, protective clothing and respiratory protection to prevent exposure. See Section 8 of this SDS for personal protective equipment recommendations. Do not use the mouth to mouth method if victim has ingested or inhaled the product. Give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper device.

After Inhalation:

Treatment is urgent. Seek emergency medical treatment. 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.

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 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.

Immediate Medical Attention and Special Treatment

Specific Treatment:

Exposure to this product via inhalation contact requires emergency medical 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.

If respiratory symptoms persist, seek 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:

DO NOT GET WATER INSIDE CONTAINERS. 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 and prevent entry. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Do not get on skin, eyes or on clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling. Remove contaminated clothing with proper techniques in order to prevent contact with skin or eyes. Place contaminated clothing in a sealed container for future disposal.

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:

Fatal if inhaled. Put on appropriate personal protective equipment, including a self-contained breathing apparatus (see Section 8) before entering area of spill or leak. Avoid breathing dust, mist, fumes, vapors or spray. 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:

Fatal if inhaled. Do not handle material unless wearing appropriate personal protective equipment, including respiratory protection (see Section 8). Use only with adequate ventilation. Do not breathe mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Open container slowly to prevent dispersal of material into the air. Prevent contact with skin, eyes and clothing. Handle with caution. Do not handle broken or punctured containers. Immediately report spills, leaks or problems with hazard control measures. Wash thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

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
NIOSH	1,2-Ethanediamine, N1-(2-aminoethyl)-	111-40-0	REL-TWA: 4 mg/m³ (1 ppm [up to 10 hr])
ACGIH	1,2-Ethanediamine, N1-(2-aminoethyl)-	111-40-0	8-Hour TWA: 1 ppm
United States	1,2-Ethanediamine, N1-(2-aminoethyl)-	111-40-0	8-Hour TWA-PEL: 4 mg/m³ (1 ppm)
WEEL	Triethylenetetramine	112-24-3	8-Hour TWA: 1 ppm
	Triethylenetetramine	112-24-3	8-Hour TWA: 6 mg/m³

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. 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:

Inhalation of material may cause severe injury or death. 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. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

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	Alkaline
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	200°C (392°F)
Flash point (closed cup)	110°C (230°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.
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.

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

Incompatible Materials:
Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. CAUTION! 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 Organic acids (i.e. acetic acid, citric acid etc.). Mineral Acid Sodium hypochlorite. Oxidizing agents. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Oxidizing agents.

Hazardous Decomposition Products:
Nitric acid. Ammonia Nitrogen Oxides Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon Monoxide. Carbon Dioxide. Aldehydes. Flammable hydrocarbon fragments. Nitrosamine Chlorine.

SECTION 11: Toxicological Information

Acute Toxicity

Assessment:
Harmful if swallowed.
Harmful in contact with skin.
Fatal if inhaled.

Product Data: No data available.

Substance Data:

Name	Route	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	dermal	LD50 Rabbit: 1045 mg/kg
	oral	LD50 Rat: 1553 mg/kg
	inhalation	LC50 Rat: 0.5 mg/L (4hr [Vapour])
Bisphenol A	Oral ATE	LD50 Rat: 2500 mg/kg
	dermal	LD50 Rabbit: 3000 mg/kg
Triethylenetetramine	oral	LD50 Rat: 1591.4 mg/kg
	dermal	LD50 Rabbit: 1465.4 mg/kg
Isophorone diamine	oral	LD50 Rat: 1030 mg/kg
	inhalation	LC50 Rat: > 5.01 mg/L (4 hr [aerosol])
	dermal	LD50 Rat: >2000 mg/kg
4-nonylphenol, branched	oral	LD50 Rat: 1246 mg/kg
	dermal	LD50 Rabbit: 2031 mg/kg
Phenol, 2-nonyl-, branched	Oral ATE	LD50 Rat: 500 mg/kg

Skin Corrosion/Irritation

Assessment:

Causes severe skin burns and eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	Causes severe skin burns.
Triethylenetetramine	Causes severe skin burns.
Isophorone diamine	Causes severe skin burns.
4-nonylphenol, branched	Causes severe skin burns.
Phenol, 2-nonyl-, branched	Causes severe skin burns.

Serious Eye Damage/Irritation

Assessment:

Causes serious eye damage.

Product Data:

No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	Causes serious eye damage.
Bisphenol A	Causes serious eye damage.
Triethylenetetramine	Causes serious eye damage.
Isophorone diamine	Causes serious eye damage.
4-nonylphenol, branched	Causes serious eye damage.
Phenol, 2-nonyl-, branched	Causes serious eye damage.

Respiratory or Skin Sensitization

Assessment:

May cause an allergic skin reaction.

Product Data:
No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	May cause an allergic skin reaction.
Bisphenol A	May cause an allergic skin reaction.
Triethylenetetramine	May cause an allergic skin reaction.
Isophorone diamine	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
1,2-Ethanediamine, N1-(2-aminoethyl)-	Not Applicable
Bisphenol A	Not Applicable
Triethylenetetramine	Not Applicable
Isophorone diamine	Not Applicable
4-nonylphenol, branched	Not Applicable
Phenol, 2-nonyl-, branched	Not Applicable

National Toxicology Program (NTP):

Name	Classification
1,2-Ethanediamine, N1-(2-aminoethyl)-	Not Applicable
Bisphenol A	Not Applicable
Triethylenetetramine	Not Applicable
Isophorone diamine	Not Applicable
4-nonylphenol, branched	Not Applicable
Phenol, 2-nonyl-, branched	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:

May damage fertility or the unborn child.

Product Data:
No data available.

Substance Data:

Name	Result
Bisphenol A	May damage fertility.
4-nonylphenol, branched	Suspected of damaging fertility or the unborn child.
Phenol, 2-nonyl-, branched	Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure)

Assessment:

May cause respiratory irritation.

Product Data:

No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	May cause respiratory irritation.
Bisphenol A	May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure)

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

Product Data:

No data available.

Substance Data: No data available.

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:

Harmful to aquatic life.

Product Data: No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	Fish LC50 Poecilia reticulata: 430 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 16 mg/L (48 hr [mobility])
	Aquatic Plants EC50 Raphidocelis subcapitata: 187 mg/L (72 hr [biomass])

Name	Result
Bisphenol A	Aquatic Plants EC50 Algae: 1.1 mg/L (96 hr [cell number])
	Fish LC50 Pimephales promelas: 4.6 mg/L (96 hr)
	Aquatic Invertebrates LC50 Daphnia magna: 0.885 mg/L (48 hr)
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])
Isophorone diamine	Aquatic Plants EC50 Desmodesmus subspicatus: >50 mg/L (72 hr [growth rate])
	Fish LC50 Leuciscus idus: 110 mg/L (96 hr)
	Aquatic Invertebrates EC50 Daphnia magna: 23 mg/L (48 hr [mobility])
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 Desmodesmus 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])

Chronic (Long-Term) Toxicity

Assessment:

Harmful to aquatic life with long lasting effects.

Product Data: No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	Fish NOEC Gasterosteus aculeatus: >10 mg/L (28 d [larval development])
	Aquatic Invertebrates NOEC Daphnia magna: 5.6 mg/L (21 d [reproduction])
Bisphenol A	Fish NOEC Oryzias latipes: 0.06 mg/L (44 d)
	Aquatic Invertebrates NOEC Potamopyrgus antipodarum: 0.020 mg/L (28 d [reproduction])
Isophorone diamine	Aquatic Invertebrates NOEC Daphnia magna: 3 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:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	The substance is readily biodegradable. 87% degradation in water, measured by O2 consumption, after 21 days.

Name	Result
Bisphenol A	The substance is readily biodegradable. 89% degradation measured by O2 consumption, after 28 days.
Triethylenetetramine	The substance is not readily biodegradable. <30% degradation in water, measured by O2 consumption, after 28 days (Read-across substance data).
Isophorone diamine	The substance is not readily biodegradable. 8% degradation in water, measured by DOC removal, after 28 days.
4-nonylphenol, branched	The substance is inherently biodegradable. 48.2% degradation in water, measured by CO2 evolution, after 35 days.
Phenol, 2-nonyl-, branched	The substance is not readily biodegradable. 50% degradation, measured by labelled carbon dioxide, after 58 days.

Bioaccumulative Potential

Product Data: No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	The substance is not expected to bioaccumulate (log Pow= -5.58 at 20°C).
Bisphenol A	The substance has a low potential for bioaccumulation based on laboratory bioconcentration factors of less than or equal to 73 L/kg in fish.
Triethylenetetramine	The substance is not expected to bioacccumulate (log Pow: -2.65 at 25 °C, QSAR substance data).
Isophorone diamine	The substance is not expected to bioaccumulate (BCF: 76.22 L/kg, QSAR substance data, aquatic organisms: Fish).
4-nonylphenol, branched	The substance has the potential to bioaccumulate (BCF: 896 dimensionless, aquatic organisms: fish).

Mobility in Soil

Product Data: No data available.

Substance Data:

Name	Result
1,2-Ethanediamine, N1-(2-aminoethyl)-	The substance is slightly mobile, therefore, slight adsorption to soil is expected (log Koc - >= 3.4 - <= 4.6).
Bisphenol A	Moderately mobile in soil. Koc at 20 °C: 750
Triethylenetetramine	The substance is slightly mobile, therefore, adsorption to soil and sediment is expected (log Koc: 3.7 dimensionless, Read-across substance data).
Isophorone diamine	The substance is moderately mobile, therefore, there is moderate potential for adsorption to soil and sediment (Koc: 928 at 25 °C, QSAR substance data).
4-nonylphenol, branched	The substance is hardly mobile, therefore, there is a high potential for adsorption to soil and sediment (Koc: 11,060 dimensionless, Read-across substance data).
Phenol, 2-nonyl-, branched	The substance has a high potential for adsorption to soil and sediment. Koc at 20 °C: 38,260 [read-across]

Results of PBT and vPvB assessment

Product Data:

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:

1,2-Ethanediamine, N1-(2-aminoethyl)-	The substance is not PBT.
Bisphenol A	The substance is not PBT.
Isophorone diamine	The substance is considered as P (persistent), but not as bioaccumulative or toxic.
4-nonylphenol, branched	The substance is not PBT.

vPvB assessment:

1,2-Ethanediamine, N1-(2-aminoethyl)-	The substance is not vPvB.
Bisphenol A	The substance is not vPvB.
Isophorone diamine	The substance is considered as vP (very persistent), but not as bioaccumulative or toxic.
4-nonylphenol, branched	The substance is not vPvB.

Other Adverse Effects: No data available.

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:

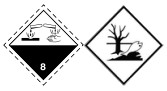
Even after emptying, container may retain residues. Containers should be completely emptied and safely stored until appropriately reconditioned or disposed through licensed contractor in accordance with government regulation. This material and its container must be disposed of in a safe way.

SECTION 14: Transport Information

United States Transportation of Dangerous Goods (49 CFR DOT)

UN Number	UN2079
UN Proper Shipping Name	DIETHYLENETRIAMINE SOLUTION
UN Transport Hazard Class(es)	8 
Packing Group	II
Environmental Hazards	None
Special Precautions for User	ERG Code: 154
Additional Information	This information 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.

International Maritime Dangerous Goods (IMDG)

UN Number	UN2079
UN Proper Shipping Name	DIETHYLENETRIAMINE SOLUTION
UN Transport Hazard Class(es)	8 
Packing Group	II
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
EmS Number	F-A, S-B
Additional Information	This information 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.

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

UN Number	UN2079
UN Proper Shipping Name	DIETHYLENETRIAMINE SOLUTION
UN Transport Hazard Class(es)	8 
Packing Group	II
Environmental Hazards	Marine Pollutant
Special Precautions for User	None
Passenger and Cargo	Packing Instruction: CARGO - 855 / AIRCRAFT - 851
Additional Information	This information 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.

SECTION 15: Regulatory Information

United States Regulations

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

Significant New Use Rule (TSCA Section 5):

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Not Listed

80-05-7	Bisphenol A	Not Listed
112-24-3	Triethylenetetramine	Not Listed
2855-13-2	Isophorone diamine	Not Listed
84852-15-3	4-nonylphenol, branched	Listed
91672-41-2	Phenol, 2-nonyl-, branched	Listed

Export Notification under TSCA Section 12(b):

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Not Listed
80-05-7	Bisphenol A	Not Listed
112-24-3	Triethylenetetramine	Not Listed
2855-13-2	Isophorone diamine	Not Listed
84852-15-3	4-nonylphenol, branched	Listed
91672-41-2	Phenol, 2-nonyl-, branched	Listed

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

SARA Section 313 Toxic Chemicals:

80-05-7	Bisphenol A	Listed
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:

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Listed
80-05-7	Bisphenol A	Listed
112-24-3	Triethylenetetramine	Listed
91672-41-2	Phenol, 2-nonyl-, branched	Listed

New Jersey Right to Know:

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Listed
80-05-7	Bisphenol A	Listed
112-24-3	Triethylenetetramine	Listed
2855-13-2	Isophorone diamine	Listed

New York Right to Know:

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Listed
80-05-7	Bisphenol A	Listed
112-24-3	Triethylenetetramine	Listed
2855-13-2	Isophorone diamine	Listed
84852-15-3	4-nonylphenol, branched	Listed

Pennsylvania Right to Know:

111-40-0	1,2-Ethanediamine, N1-(2-aminoethyl)-	Listed
80-05-7	Bisphenol A	Listed
112-24-3	Triethylenetetramine	Listed
91672-41-2	Phenol, 2-nonyl-, branched	Listed

California Proposition 65:

⚠**WARNING:** This product can expose you to Bisphenol A; which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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
2015-03-26	
2018-04-04	Internal Review
2024-04-24	Internal Review

End of Safety Data Sheet