

PRODUCT NAME(S): Rhino Eco-Coat® 11-85 Resin
SECTION 1 – IDENTIFICATION

Manufacturer's Info:
Rhino Linings Corporation
 9747 Businesspark Avenue
 San Diego, CA, 92131

Information phone: (858) 450 0441
Emergency contact: CHEMTREC (800) 424 9300

Product name: Rhino Eco-Coat 11-85 Resin
Chemical Name: Polyol/Polyamine Blend
Chemical Family: Polyurethane/Polyurea Hybrid Resin
Product Category: Component of Polyurethane/Polyurea Hybrid System
Recommended use: Spray elastomer

SECTION 2 – HAZARD(S) IDENTIFICATION
OSHA Hazard Communication Standard:

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

GHS-Label Elements: **Signal Word:**
 WARNING

Pictogram(s):



GHS 08



GHS 07

Classification of the substance or mixture:

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Acute Toxicity, Oral	5	H303	May be harmful if swallowed
Acute Toxicity, Dermal	5	H313	May be harmful in contact with skin
Skin corrosion / irritation	2	H315	Causes skin irritation
Serious eye damage / Eye irritation	2A	H319	Causes serious eye irritation
Specific target organ toxicity, single exposure	3	H336	May cause drowsiness or dizziness
Specific target organ toxicity, repeated exposure	2	H373	May cause respiratory irritation through prolonged or repeated exposure (Inhalation) May cause damage to kidney, liver and pancreas through prolonged or repeated exposure (skin absorption)
Aquatic Hazard, Acute	3	H402	Harmful to aquatic life
Aquatic Hazard, Long term	3	H412	Harmful to aquatic life with long lasting effects

Precautionary Statements:

Prevention: P280 Wear protective gloves/ protective clothing / eye protection/ face protection.
 P261 Avoid breathing mist, vapors, spray.
 P264 Wash exposed area with plenty of water and soap thoroughly after handling.
 P271 Use only outdoors or in well-ventilated area
 P273 Avoid release to the environment.

Response: P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P332 + P313 If skin irritation occurs: Get medical advice/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.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P362 Take off contaminated clothing and wash before reuse.
 P312 Call a POISON CENTER or physician if you feel unwell.
 P314 Get medical advice/attention if you feel unwell.

Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal: P501 Dispose of contents/container to hazardous or special waste collection point.

PRODUCT NAME(S): Rhino Eco-Coat® 11-85 Resin**SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS**

Components	CAS #	EC #	Concentration, %
Polyether Polyol	9082-00-2	N/A	70-90
Diethyltoluenediamine	68479-98-1	270-877-4	5-10
Aluminum Powder (Stabilized)	7429-90-5	231-072-3	<10
Naphtha (petroleum)	64742-82-1	265-185-4	<3

SECTION 4 – FIRST-AID MEASURES**Description of First Aid measures:**

- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
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 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 should be kept under medical surveillance for 48 hours.
- Skin:** Wash material off of the skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes immediately and wash them before reuse. Get medical advice/attention if irritation persists.
- Eye:** Rinse cautiously with water for several minutes, especially under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Do not rub eyes in order to prevent cornea injury. Get medical advice/attention if eye irritation persists.
- Ingestion:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any.
If the exposed person is conscious, rinse mouth with water and then give plenty of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Do not induce vomiting unless directed to do so by medical personnel.
If unconscious, place in recovery position and maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Get medical attention immediately.

Most important symptoms/effects, acute and delayed:

See Section 11 for more details.

General advice for First Aid responders:

No action should be taken involving any personal risk or without suitable training. If potential for exposure exist refer to Section 8 for specific personal protective equipment. Show this SDS to physician.

Note to physician: Antidote: Specific antidotes or neutralizers do not exist. Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient. Recommended medical monitoring for at least 24hours.
Certain ingredient of this product may cause methemoglobin formation resulting in a reduced ability of the blood to carry oxygen; a symptom may include cyanosis. Immediately give oxygen if victim turns blue (lips, ears, fingernails). Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray, alcohol-resistant foam, dry chemical or carbon dioxide fire extinguishers.

Unsuitable extinguishing media: Direct water stream may cause frothing, splattering of burning material and spreading of fire.

Specific hazards arising from the chemical: Material may be ignited only if preheated to high temperatures (such in fire conditions). Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. Hazardous combustion products: carbon dioxide, carbon monoxide, nitrogen oxides, amines, hydrogen cyanide, lower molecular weight organic molecules.

Special Protective Equipment and Precautions for fire-fighters: Wear NIOSH or OSHA approved self-contained breathing apparatus in positive pressure mode with full face piece and full protective gear. Isolate the scene by removing all persons from the incident area. No action should be taken involving any personal risk or without suitable training. Spilled product will cause very slippery walking surfaces.

PRODUCT NAME(S): Rhino Eco-Coat® 11-85 Resin**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. Keep unnecessary and unprotected personnel from entering. Ensure adequate ventilation/exhaust extraction. Avoid breathing vapors or mist during clean up. Use protective equipment as described in Section 8. Do not touch or walk through spilled material; spilled material may cause a slipping hazard.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Inform the relevant authorities if the product has caused environmental pollution. Water polluting material. May be harmful to the environment if released in large quantities. See Section 12 for more details.

Methods and materials for containment and cleaning up: Remove mechanically; cover the remainder with non-combustible absorbent material (e.g. sawdust, sand, earth, vermiculite or diatomaceous earth). After approximately one hour, transfer into properly labeled chemical waste containers. If necessary, repeat application of absorbent material until all liquid has been removed from the surface. Wash the spill site with soap and water. Cover container, but do not seal, and remove from work area. Keep in a well ventilated area. After 72 hours, seal the container, and properly dispose of the waste material and any contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

For major spills: 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 contain and collect with an absorbent material as described in the previous paragraph.

Residues from spill cleanup may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste. For major spills, see Section 1 for the Emergency contact; for further disposal measures, see Section 13.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Protect chemical from atmospheric moisture. Avoid prolonged exposure to heat and air. Keep away from sources of ignition. Do not reseat if contamination is suspected.

Use adequate ventilation to keep airborne levels below the exposure limits. Do not breathe vapors and mists. Wear respiratory protection if material is heated, mixed, sprayed or used in a confined space. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash hands thoroughly after handling. Hands and/or face should be washed before eating, drinking and smoking and at the end of the shift. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities: Store in original or approved alternative 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. Protect it against physical damage and moisture. Normal temperature and pressures do not affect the material. Keep liquid away from heat, sparks and flame. Do not cut, drill, grind, weld or perform similar operations on or near containers. Use appropriate containment to avoid environmental contamination. Segregate from acids and acid forming substances.

Storage stability: Stable under normal conditions.

Storage temperature: 60 - 90°F (16 – 32°C)

Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200. Employees and consumers should be warned of health risks associated with product use. See Section 8 for additional information on hygiene measures.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters/Occupational exposure limit values: Not available for mixture. Results for components, where available:

Components, CAS #:	Occupational Exposure Limits
Naphtha (petroleum), CAS #: 64742-82-1	OSHA: PEL: TWA: 50 ppm

Appropriate engineering controls: Good local and general ventilation should be sufficient to control worker exposure to airborne contaminants below recommended exposure limits. Local exhaust may be required in some areas.

Personal protective equipment:**Eye/face protection:**

When directly handling liquid product, eye protection is required. Examples of eye protection include safety glasses and goggles or full face shield when there is a greater risk of splash. Contact lenses should not be worn when working with chemicals.

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Avoid contact with skin. Impervious gloves (nitrile butyl rubber, neoprene and PVC) should be worn always when working with this product. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose contaminated gloves after use in accordance with good laboratory practices. Body should be covered with appropriate clothing (apron, arm covers or full body suit) depending on the task being performed and the risks involved. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH. Wash contaminated clothing before reuse. Store work clothing separately. Appropriate footwear should be also selected based on the task being performed and the risks involved.

Respiratory protection:

Use local or general ventilation to control exposures below applicable exposure limits. When ventilation is inadequate, use either an atmosphere supplying respirator or NIOSH or OSHA approved air-purifying respirator for organic vapors. Respirator must be properly fitted and its selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Additional Protective Measures: Educate and train employees in safe handling of this product. Follow all label instructions. As a general hygiene practice, wash hands and face after use. Emergency eyewash fountains and safety shower should be in close proximity as a matter of good practice.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver/Gray Liquid
Odor:	Slightly solvent-like
Odor threshold:	Not available
pH:	8 - 10
Melting point/ freezing point:	Not available
Initial boiling point and boiling range:	>200 °C
Flash point:	>200°C
Evaporation rate:	Negligible
Flammability (solid, gas):	Not available
Upper/ lower flammability or explosive limits:	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.00-1.05 @ 25°C (77°F)
Solubility (water):	Very slightly soluble
Partition coefficient n-octanol/water:	Not available
Auto-ignition temperature:	>250°C
Decomposition temperature:	Not available
Viscosity:	800 – 1100cps @ 25°C (77°F)

SECTION 10 – STABILITY AND REACTIVITY**Reactivity:**

Hazardous Polymerization: Product will not undergo hazardous polymerization.

Corrosion to metals: Corrosive effects to metal are not anticipated.

Oxidizing properties: Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases: Does not form flammable gases in the presence of water.

Chemical stability: Stable under recommended storage conditions. Product is hygroscopic; contamination with moisture will negatively affect product performance. Avoid unintended contact with isocyanates; the reaction will generate heat.

Conditions to avoid: Unintentional contact with moisture, excessive heat, open flame and sparks. Avoid mist formation.

Incompatible materials: Strong oxidizing agents. Water, alcohols, amines, bases, acids, copper, aluminum and zinc alloys.

Hazardous decomposition products: Depend upon temperature, air supply and presence of other materials. Can include, but are not limited to carbon dioxide, carbon monoxide, nitrogen oxides, amines, hydrogen cyanide, lower molecular weight organic molecules.

SECTION 11 – TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Skin and Eye Contact, Inhalation and Ingestion.

Symptoms of exposure:**Acute toxicity:**

Oral: May be harmful if swallowed. Adverse symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Dermal: May be harmful in contact with skin. Adverse symptoms may include irritation and redness.

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Inhalation: Inhalation is unlikely due to the low vapor pressure. However, if handled at elevated temperatures, it may give off-gas, vapor or mist that is very irritating to the respiratory system. Adverse symptoms may include nausea, headache, difficulties with breathing.

Skin corrosion / irritation:

Causes skin irritation.

Serious eye damage / eye irritation:

Causes serious eye irritation. Adverse symptoms may include tearing and redness.

Specific target organ toxicity, single exposure:

This product contains component that has possible narcotic effects after single exposure.

Aspiration hazard:

Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity:
Respiratory and Skin Sensitizer:

This product does not contain component that are reported to be a skin sensitizer.

Germ cell mutagenicity:

Developmental risk to humans is not expected from exposure to this product.

Carcinogenicity:

This product does not contain ingredients known or reported to be carcinogenic by any reference IARC, NTP, EPA, OSHA, ACGIH.

Reproductive toxicity:

Risk to humans is not expected from exposure to this product. Not known or reported to cause reproductive toxicity.

Specific target organ toxicity, repeated exposure:

Respiratory system, lungs, liver, kidney, pancreas.

Medical conditions aggravated by overexposure:

Asthma, respiratory disorders, skin disorders, liver, kidney and pancreas diseases if product is handled without adequate protection.

Toxicity test results: Not available for mixture. Results for components:

Components	Test Results
Polyether Polyol CAS #: 9082-00-2	<u>Acute Toxicity</u> Oral LD50 (Rat): >5,000 mg/kg Dermal LD50 (Rabbit): >2,000 mg/kg Inhalation LC50 (Rat), 1hr : >200 mg/L
Diethyltoluenediamine CAS #: 68479-98-1	<u>Acute Toxicity</u> Oral LD50 (Rat): 738 mg/kg Dermal LD50 (Rabbit): >2000 mg/kg Skin corrosion/irritation (Rabbit): Slight irritation. Serious eye damage/eye irritation (Rabbit): Moderate to severe eye irritation.
Aluminum Powder (stabilized) CAS #: 7429-90-5	No Data Available.
Naphtha (petroleum) CAS #: 64742-82-1	<u>Acute Toxicity</u> Oral LD50 (Rat): >5,000 mg/kg Dermal LD50 (Rabbit): >2,000 mg/kg; No mortality was observed. Inhalation LC50 (Rat), aerosol, 4hrs: >5.0 mg/L; No mortality was observed; Not acute hazard. (OECD Guideline 403) Skin corrosion/irritation (Rabbit): Irritating to skin. Serious eye damage/eye irritation: Expected to be slightly irritating. <u>Chronic Toxicity</u> Genetic toxicity: May cause heritable genetic damage. Carcinogenicity: Known human carcinogen. (Benzene) May cause leukaemia (AML - acute myelogenous leukemia). (Benzene) Reproductive toxicity: Causes fetotoxicity at doses which are maternally toxic. (Toluene) May impair fertility at doses which produce other toxic effects. (n-hexane). Teratogenicity: Many case studies involving abuse during pregnancy indicate that toluene can cause birth defects, growth retardation and learning difficulties. (Toluene)

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Ecotoxicity: Acutely and chronically harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Persistence and degradability: Not readily biodegradable by OECD criteria. In contact with water the substance will hydrolyze slowly. After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Bioaccumulative potential: No significant accumulation in organisms is expected.

Mobility in soil: Not expected.

Other adverse effects: Not known.

Ecotoxicity test results: Not available for the mixture. Results for components, where available:

Components	Test Results
Polyether Polyol CAS #: 9082-00-2	<u>Acute Toxicity</u> Fish: LC 50, 96hrs: >100 mg/L (based on available data and comparison to similar compounds)
Diethyltoluenediamine CAS #: 68479-98-1	<u>Acute toxicity</u> Aquatic invertebrates: EC50, 48hrs: 0.50mg/L (Daphnia test acute, static)
Naphtha (petroleum) CAS #: 64742-82-1	<u>Acute Toxicity</u> Expected to be toxic: (to aquatic organisms) LL/EL/IL50 > 1 <= 10 mg/l (LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract).

SECTION 13 – DISPOSAL CONSIDERATIONS

Product Disposal: 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.

Container disposal: Even after emptying, container may retain residues. Empty containers should be completely drained 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

Land transport, U.S. DOT: Non-regulated
Sea transport, IMDG: Non-regulated
Air transport, IATA/ICAO: Non-regulated

SECTION 15 – REGULATORY INFORMATION**U.S. Regulations:**

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

TSCA Regulations: All ingredients of this product are listed or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

EPCRA Section 302 (Emergency Response Planning, Extremely Hazardous Substance): No ingredients are subject to the reporting

EPCRA Section 304 (Emergency Release Notification Requirements): No ingredients are subject to the reporting

EPCRA Sections 311 & 312 (Hazardous Chemical Inventory Reporting, Hazard Categories): Acute Health Hazard, Chronic Health Hazard

EPCRA Section 313 (40 CFR 372) (Toxic Chemical Release Inventory Reporting): No ingredients are subject to the reporting

Clean Air Act:

Ozone Depleting Substances (ODS): This product does not contain nor is it manufactured with ozone depleting substances.

NFPA rating: Health: 2 Fire: 1 Reactivity: 0 Special: 0

HMIS rating: Health: 2 Flammability: 1 Physical hazard: 0

State Regulations:

California Prop. 65 Components:

This product contains chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. (See section 11).

Instruction: for regulatory information on components of this mixture, check the appropriate state websites.

PRODUCT NAME(S): Rhino Eco-Coat® 11-85 Resin**International Regulations/Inventories:**

Canadian Regulations

CEPA/Canadian DSL: All ingredients of this product are listed or are exempt from the DSL.

WHMIS Classification (Controlled Products Regulations): Class D-2B: Material causing other toxic effects

WHMIS Label Information:

**SECTION 16 – OTHER INFORMATION****LEGEND**

GHS	Globally Harmonized System
CAS	Chemical Abstracts Services
EPA	Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
ACGIH	American Conference of Governmental Industrial Hygienists
NIOSH	National Institute of Occupational Safety and Health
PEL	Permissible Exposure Limits
TLV	Threshold Limit Value
REL	Recommended Exposure Limit
TWA	Time-Weighted Average
STEL	Short-term exposure limit
OES	Occupational exposure standard
DNEL	Derived No Effect Level
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
COD	Chemical Oxygen Demand
BOD	Biological Oxygen Demand
DOT	Department of Transportation
IMDG	International maritime dangerous goods code
IATA, ICAO	International Air Transport Association, International Civil Aviation Organization
EPCRA	Emergency Planning and Community Right-to-Know Act
SARA	State Authorization Reciprocity Agreements
DSL	Domestic Substance List
WHMIS	Workplace Hazardous Materials Information System
TDG	Transport of Dangerous Goods
HCS	Hazard Communication Standard
CEPA	Center for European Policy Agreements
EINECS	European Inventory of Existing Commercial Chemical Substances
CPR	Controlled Products Regulations

Latest revision date: August 30, 2016**Date of the previous revision:**

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.