

**PRODUCT NAME(S): Pipeliner™ 5100 PW Resin**

**SECTION 1 – IDENTIFICATION**

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

**Product name:** Pipeliner™ 5100 PW Resin  
**Recommended use:** Spray Elastomer

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

**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:**  
DANGER

**Pictogram(s):**



GHS 05



GHS 08



GHS 07



GHS 09

**Classification of the substance or mixture:**

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Acute Toxicity, Oral	4	H302	Harmful if swallowed
Acute Toxicity, Dermal	4	H312	Harmful in contact with skin
Skin corrosion / irritation	1B	H314	Causes severe skin burns and eye damage.
Serious eye damage / Eye irritation	1	H318	Causes serious eye damage.
Skin Sensitization	1B	H317	May cause an allergic skin reaction
Carcinogenicity	2	H351	Suspected of causing cancer by inhalation
Specific target organ toxicity, single exposure	3	H335	May cause respiratory irritation
Specific target organ toxicity, repeated exposure	2	H373	May cause damage to liver, kidney and pancreas through prolonged or repeated exposure May cause damage to lungs/respiratory system through prolonged or repeated exposure by inhalation
Aquatic Hazard, Acute	2	H401	Toxic to aquatic life
Aquatic Hazard, Chronic	2	H411	Toxic to aquatic life with long lasting effects

**Precautionary Statements:**

<b>Prevention:</b>	P201 P202 P281 P260 P271 P270 P264 P272 P273	Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe mist, vapors, spray. Use only outdoors or in a well-ventilated area. Do not eat, drink, and smoke when using this product. Wash exposed area with plenty of water and soap thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.
<b>Response:</b>	P301 + P330 + P331 P303 + P361 + P353  P363 P305 + P351 + P338  P304 + P340  P310 P308 + P313 P391	IF SWALLOWED: Rinse mouth. Do not induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF exposed or concerned: Get medical advice/attention. Collect spillage
<b>Storage:</b>	P403 + P233 P405	Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Released: June 22, 2016**
**Disposal:** P501

Dispose of contents/container to hazardous or special waste collection point in accordance with local/regional/national/international regulations.

**Hazards not otherwise classified:**

Not known.

**Note:** Negative effects of the component classified as possible carcinogen to humans are minimized since it is dispersed in a liquid as opposed to an inhalable fine powder form. However, precautions should be taken to avoid breathing mists created by heating, mixing or spraying and dust from cutting or grinding of cured product containing this component.

**SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS**

Components	CAS #	EC #	Concentration, %
Polyoxypropylenediamine	9046-10-0	618-561-0	20 – 40
Confidential Component 1	Trade Secret	Trade Secret	10 – 20
Diethyltoluenediamine	68479-98-1	270-877-4	10 – 20
Confidential Component 2	Trade Secret	Trade Secret	10 – 20
Tetrahydroxypropylethylenediamine	102-60-3	203-041-4	1 – 5
Titanium Dioxide	13463-67-7	236-675-5	1 – 5
Zeolites	1318-02-1	930-915-9	1 – 5

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

**Inhalation:** Remove the exposed person to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Inhalation of large amounts of the product requires immediate medical attention. 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.

**Skin:** Heavy exposure to the product requires prompt attention. 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. Injuries must be treated promptly by a physician or dermatologist.

**Eye:** Immediately flush eyes cautiously with plenty of 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. Injuries must be treated promptly by a physician or ophthalmologist.

**Ingestion:** Remove the exposed person to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any. Rinse mouth thoroughly with water and then give 60 to 240 mL (2 to 8 oz) of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Never induce vomiting or give anything by mouth if the person 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:** 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 24 hours. 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:** Keep away from extreme heat or open flame. 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 and 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.

Released: June 22, 2016

Water contaminated with this material must be contained and prevented being discharged to any waterway, sewer or drain. Fire water run-off, if not contained, may cause environmental damage. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures:** 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. See Section 12.

**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). Following absorption, 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, and move to a well ventilated area. 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. Wash spillages into an effluent treatment plant or contain and collect with an absorbent material as described in the previous paragraph. For minor spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly with soap and water to remove residual contamination.

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 reseal 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 - 80°F (16 – 27°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. Not available for components.

**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.

**Skin/body protection:**

Avoid contact with skin. Impervious gloves (nitrile butyl rubber, neoprene and PVC) should be worn always when working with this product. 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**

<b>Appearance:</b>	Liquid
<b>Odor:</b>	Slightly ammonia-like
<b>Odor threshold:</b>	Not available
<b>pH:</b>	9 - 11
<b>Melting point/ freezing point:</b>	Not available
<b>Initial boiling point and boiling range:</b>	Not available
<b>Flash point:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Flammability (solid, gas):</b>	Not available
<b>Upper/ lower flammability or explosive limits:</b>	Not available
<b>Vapor pressure:</b>	Not available
<b>Vapor density:</b>	Not available
<b>Relative density:</b>	1.00-1.10 @ 25°C (77°F)
<b>Solubility (water):</b>	Very slightly soluble
<b>Partition coefficient n-octanol/water:</b>	Not available
<b>Auto-ignition temperature:</b>	>180°C
<b>Decomposition temperature:</b>	Not available
<b>Viscosity:</b>	Not available

**SECTION 10 – STABILITY AND REACTIVITY**

**Reactivity:** Product will not undergo hazardous polymerization. Corrosive effects to metal are possible. Based on its structural properties the product is not classified as oxidizing. 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 and 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:** Harmful if swallowed. May cause burns to mouth, throat and stomach. Adverse symptoms may include abdominal pain, nausea and diarrhea.

**Dermal:** May cause severe burns. Adverse symptoms may include pain or irritation, redness, blistering.

**Inhalation:** When 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, respiratory arrest.

- o DETDA, CAS #: 68479-98-1: Inhalation, skin absorption or ingestion may cause methemoglobin formation resulting in a reduced ability of the blood to carry oxygen; a symptom may include cyanosis (purplish-blue coloring of the skin, fingernails, and lips).

**Skin corrosion / irritation:**

May cause serious skin burns. A more severe response may be expected if skin is abraded (scratched or cut).

**Serious eye damage / eye irritation:**

May cause serious eye damage. Adverse symptoms may include tearing, redness, swelling and burning.

**Specific target organ toxicity, single exposure:**

May cause respiratory irritation.

- o Confidential Component 1, CAS #: Trade Secret: May cause respiratory irritation.
- o Confidential Component 2, CAS #: Trade Secret: May cause respiratory irritation.

**Aspiration hazard:**

Not an aspiration hazard.

**Chronic toxicity:**
**Respiratory and Skin Sensitizer:**

This product contains component that is reported to be a skin sensitizer.

- Confidential Component 2, CAS #: Trade Secret

**Germ cell mutagenicity:**

Based on available info, risk to humans is not expected from exposure to this product.

**Carcinogenicity:**

This product contains component reported to be possibly carcinogenic to humans by IARC.

- Titanium Dioxide, CAS #: 13463-67-7: IARC: Group 2B (Possibly Carcinogenic to Humans)

Negative effects of the component classified as carcinogen are minimized since it is dispersed in a liquid as opposed to an inhalable fine powder form. However, precautions should be taken to avoid breathing mists created by heating, mixing or spraying and dust from cutting or grinding of cured product containing this component.

**Reproductive toxicity:**

Based on available info, risk to humans is not expected from exposure to this product.

**Specific target organ toxicity, repeated exposure:**

Liver, kidney, pancreas, skin, lungs/respiratory system.

**Medical conditions aggravated by overexposure:**

Liver, kidney, pancreas, skin, lungs/respiratory system disorders if product is handled without adequate protection.

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

Components	Test Results
Polyoxypropylenediamine, CAS #: 9046-10-0	<u>Acute Toxicity</u> Oral LD50 (Rat): 480 mg/kg Dermal LD50 (Rabbit): 2,090 mg/kg Skin corrosion/irritation (Rabbit): Corrosive. Causes severe burns. Serious eye damage/eye irritation (Rabbit): Corrosive. Causes serious eye damage.
Confidential Component 1, CAS #: Trade Secret	<u>Acute toxicity:</u> Inhalation: May irritate the respiratory system in high concentrations. Ingestion: May cause discomfort if swallowed. Skin contact: May cause mechanical skin irritation. Eye contact: May cause mechanical eye irritation. STOT, SE: May cause respiratory irritation. <u>Chronic toxicity:</u> Carcinogenicity: studies focused on the effects on the lungs and have been negative for pulmonary fibrosis, lung cancer, or mesothelioma. Warning! Product contains Quartz (<2%) which can cause cancer. Risk of cancer depends upon duration and level exposure. STOT, RE: Prolonged exposure may affect pulmonary function/lungs.
Diethyltoluenediamine (DETDA), CAS #: 68479-98-1	<u>Acute Toxicity</u> Oral LD50 (Rat): 738 mg/kg (OECD Test Guideline 401) Dermal LD50 (Rat): >2,000 mg/kg (OECD Test Guideline 402) Skin corrosion/irritation (Rabbit): Non-irritating (OECD Test Guideline 404) Eye Irritation (Rabbit): Irritating (US-EPA) <u>Chronic toxicity</u> Skin Sensitization (guinea pig): Negative (intracutaneous test) Germ cell mutagenicity: Positive and negative results were seen in various in Vitro and in Vivo studies. Reproductive toxicity: Oral (Rat, females), Dose: 0, 50, 150, 500 mg/kg General Toxicity Maternal: No observed adverse effect level: 50 mg/kg body weight Teratogenicity: No observed adverse effect level: 500 mg/kg body weight Embryo-fetal toxicity: No observed adverse effect level: 150 mg/kg body weight Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses (OECD Test Guideline 414) STOT, RE: Oral (Rat), 90 days, Dose: 50-125-320ppm, NOEL: ≥8 mg/kg; LOEL: ≥21 mg/kg; Dermal (Rabbit), 21 day, Dose: 1-10-100mg/kg, NOEL: ≥10 mg/kg Chronic ingestion may cause liver damage. Pancreas damage.
Confidential Component 2, CAS #: Trade Secret	<u>Acute Toxicity</u> Oral LD50 (Rat): 1,000-2,000 mg/kg Dermal LD50 (Rabbit): 2,000-5,000 mg/kg Inhalation: Irritating to mucous membranes. Irritating to respiratory system. Skin corrosion/irritation (Rabbit): Irritating; may be harmful by skin contact. Serious eye damage/eye irritation: Irritating. STOT, SE: May cause respiratory irritation. Aspiration Hazard: No. <u>Chronic toxicity</u> Sensitization: Skin sensitizer Germ cell mutagenicity: No data available Carcinogenicity: No data available Reproductive Toxicity: No data available STOT, RE: eyes, skin, respiratory system Other effects: may cause cyanosis. Absorption into the body leads to formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Elevated blood pressure. Dizziness, tremors, convulsions, coma and dermatitis.
Tetrahydroxypropyl-ethylendiamine, CAS #: 102-60-3	<u>Acute Toxicity</u> Oral LD50 (Rat): 3,280 mg/kg (OECD Test Guideline 401) Dermal LD50 (Rabbit): >2,000 mg/kg (OECD Test Guideline 402) Skin corrosion/irritation (Rabbit): not irritating (OECD Test Guideline 404) Serious eye damage/eye irritation (Rabbit): not irritating (OECD Test Guideline 405) <u>Chronic toxicity</u> Skin sensitization (Guinea pig): Non-sensitizing (Guinea pig maximization test) (OECD Test Guideline 406)

Zeolite, CAS #: 1318-02-1	<p><u>Acute Toxicity</u>          Oral LD50 (Rat): &gt;5,110 mg/kg (OECD Guideline 401); May cause gastrointestinal tract irritation.          Dermal LD50 (Rabbit): Not data available          Inhalation LC50 (Rat)(dust/aerosol), 4hrs : &gt;5.3 mg/L. Slightly irritant.          Skin corrosion/irritation (Rabbit): Slightly irritant. May cause dehydration.          Serious eye damage/eye irritation (Rabbit): Slightly irritant. May cause abrasion or mechanical irritation.          STOT, SE: risk to humans is not expected from exposure to this product.          Aspiration hazard: No</p> <p><u>Chronic toxicity</u>          Sensitization, skin and respiratory: Not sensitizer (Guinea pig maximization test)          Germ cell mutagenicity: Risk to humans is not expected from exposure to this product.          Carcinogenicity: IARC: Group 3 (Not Classifiable as to its Carcinogenicity to Humans)          Reproductive toxicity: No adverse effects in rats and rabbits or their offspring following administration in the drinking water during pregnancy.          STOT, RE: Effects on kidney were observed in rats and dogs administered high dose levels in their feed for one month. Effect on blood, chronic pneumonitis and acute bronchopneumonia were observed in dogs. Long-term inhalation by rats and dogs produced inflammation in the lungs associated with accumulation of particulate.</p>
Titanium Dioxide, CAS #: 13463-67-7	<p><u>Acute toxicity</u>          Oral LD50 (Rat): &gt;5,000 mg/kg; a very insoluble compound. The studies in several species, including man, show neither significant absorption nor tissue storage following ingestion of titanium dioxide.          Inhalation LC50 (Rat): &gt;6.82 mg/L          Skin corrosion/irritation (Rabbit): Slight or no skin irritation. Not dermally absorbed by humans.          Serious eye damage/eye irritation (Rabbit): Slight or no eye irritation.</p> <p><u>Chronic Toxicity</u>          Sensitization (Mouse): Not sensitizing on laboratory animals.          Germ cell mutagenicity: Non genotoxic.          Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans; No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP, ACGIH and OSHA.          Titanium dioxide is a frequently used compound in lung clearance studies, where a biologically inert substance is required, however inhalation of high concentrations of fine or ultrafine titanium dioxide particles has been shown to result in pulmonary inflammation, fibrosis, and lung tumors in rats. The same inhalation effects were not observed in mice and hamsters and may be a rat-specific threshold phenomenon, dependent upon lung overloading at high exposure concentrations and possibly of little relevance to humans. Epidemiological data suggest that there is no carcinogenic effect associated with workplace exposure to titanium dioxide dust.          STOT, RE: Inhalation: Lung fibrosis; potential occupational carcinogen</p>

### SECTION 12 – ECOLOGICAL INFORMATION

**Ecotoxicity:** Acutely and chronically hazardous 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. Study of terrestrial toxicity is not necessary due to exposure considerations.

**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:** Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants. Do not release untreated into natural waters.

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

Components	Test Results
Polyoxypropylenediamine, CAS #: 9046-10-0	<p><u>Acute toxicity</u>            Fish: LC50, 96hrs: &gt;15 mg/L (OECD Guideline 203, semistatic)                  LC50, 96hrs: 772.14mg/L (OECD Guideline 203, static)            Aquatic invertebrates: EC50, 48hrs: 80 mg/L (OECD Guideline 202, part 1, static)                  EC50, 48hrs: 418.34mg/L (Daphnia test acute, static)            Aquatic plants: EC50, 72hrs: 15 mg/L (growth rate) (OECD Guideline 201, static)                  EC50, 72hrs: 141.72 mg/L (ISO/DIS 10253, static)            No observed effect concentration, 72hrs: 100 mg/L (ISO/DIS 10253, static)</p> <p><u>Chronic toxicity</u>            Fish: Study does not need to be conducted.            Aquatic invertebrates: Study does not need to be conducted.</p> <p><u>Ecological Data</u>            Activated sludge EC20, 3hrs: 380 mg/L (OECD Guideline 209)</p>
Confidential Component 1, CAS #: Trade Secret	<p>Not regarded as dangerous for the environment.            Acute fish toxicity: Not considered toxic to fish.            Persistence and degradability: Not readily biodegradable.            Bioaccumulative potential: Not bioaccumulating.            Mobility in soil: Not relevant, due to the form of the product.            Results of PBT and vPvB assessment: This product does not contain any PBT or vPvB substances.</p>
Diethyltoluenediamine (DETA), CAS #: 68479-98-1	<p><u>Aquatic toxicity</u>            Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.</p> <p><u>Acute Toxicity</u>            Fish: LC50 (Fathead minnow), 96hrs: &gt;106 mg/L (OECD Guideline 203)            Aquatic Invertebrates: EC50 (Daphnia magna), 48hrs: 5.8 mg/L (OECD Guideline 202)            Algae:ErC50 (Green algae), 72hrs: 104 mg/L (OECD Guideline 201)</p> <p><u>Ecological Data</u>            Microorganisms, EC50 (bacterium), 24hrs: &gt;170 mg/L (DIN 38412 Part 8)            Biodegradation, 28days: &lt;1 % (OECD Guideline 301D); COD: 2,370 mg/g</p>

Confidential Component 2, CAS #: Trade Secret	Dangerous to environment. Very toxic to aquatic life with long lasting effects. Avoid release to the environment.
Tetrahydroxypropyl- ethylenediamine, CAS #: 102-60-3	<p><u>Acute Toxicity</u>  Fish: LC50 (fathead minnow), 96hrs: 1,000 mg/L  Aquatic invertebrates: EC50 (Daphnia magna), 24hrs: 1,435 mg/L  Aquatic plants: EC50 (green algae), 96hrs: 662 mg/L</p> <p><u>Ecological Data</u>  Toxicity to microorganisms: DEV-L2: &gt;1,000mg/L  Activated sludge, aerobic, domestic EC20, 30min: 1,000 mg/L (OECD Guideline 209)  Biodegradability: poorly biodegradable  Elimination information (aerobic, predominantly domestic sewage): 9 % BOD of the ThOD (28 d) (OECD Guideline 301F)  Stability in Water (similar product): &lt;10 % (120 h) (pH value 7) (OECD Guideline 111) - in contact with water the substance will hydrolyze slowly.  Bioaccumulative potential: not expected based on octanol/water distribution coefficient (log Pow).  Mobility in soil: No data available.</p>
Zeolite, CAS #: 1318-02-1	<p><u>Acute Toxicity:</u>  Fish (fathead minnow), 96hrs: LC50: &gt;680 mg/L (EPA 72-1, static). The details of the toxic effect relate to the nominal concentration. The LC50 is higher than the solubility limit.  Aquatic invertebrates (Daphnia magna), 24hrs: EC50: 2,808 mg/L (OECD Test Guideline 202, part 1, static)  Aquatic plants (Green algae), 96hrs: EC50: &gt;328 mg/L (OECD Test Guideline 201, static). The details of the toxic effect relate to the nominal concentration. Tested above maximum solubility. The product has low solubility in the test medium. An eluate has been tested.  Microorganisms (Bacteria), 16hrs: EC50: 950 mg/L (Growth inhibition) (DIN 38412, Part 8). The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An eluate has been tested.</p> <p><u>Chronic toxicity:</u>  Fish (fathead minnow), 30days: NOEC: ≥86.7 mg/L (OPP 72-5, EPA-Guideline, Flow through). The statement of the toxic effect relates to the analytically determined concentration.  Aquatic invertebrates (Daphnia magna), 21days: NOEC: 32 mg/L (OECD Test Guideline 211, semistatic). The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An eluate has been tested.</p> <p><u>Ecological Data:</u>  Biodegradability: Not readily biodegradable. The product is virtually insoluble in water and can thus be separated from water mechanically in suitable effluent treatment plants. It cannot be eliminated from water by biological purification processes.  Mobility in soil: Transport between environmental compartments: Study scientifically not justified.</p>
Titanium Dioxide, CAS #: 13463-67-7	<p>Aquatic toxicity:  Fish LC0 (orfe, freshwater fish), 48h: &gt;1,000 mg/L.</p> <p><u>Ecological Data:</u>  Persistence and degradability: Methods for the determination of biodegradability are not applicable to inorganic substances.  Bioaccumulative potential: The product is practically insoluble in water and not biodegradable.  Mobility in soil: No data available. PBT and vPvB assessment is not required for inorganic substances.  Titanium dioxide is a stable compound that is insoluble in water and therefore would not be expected to be present in drinking water. Based on the lack of absorption as well as no identified toxicological effects of concern in animal testing, there are also no risk concerns for non-target terrestrial organisms resulting from the use of titanium dioxide as an inert ingredient.</p>

### 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	Sea transport, IMDG:	Air transport, IATA/ICAO:
<b>UN number:</b>	UN 2735	UN 2735	UN 2735
<b>UN proper shipping name:</b>	Amines, liquid, corrosive, n.o.s. (contains Polyoxypropyleneamines)	Amines, liquid, corrosive, n.o.s. (contains Polyoxypropyleneamines)	Amines, liquid, corrosive, n.o.s. (contains Polyoxypropyleneamines)
<b>Transport hazard class(es):</b>	8	8	8
<b>Packing group:</b>	III	III	III
<b>Hazard Label</b>	Corrosive	Corrosive	Corrosive
<b>Special precautions:</b>		Emergency schedules (EmS): F-A, S-B Marine pollutant	Quantity limitation: Passenger Aircraft: 5 L, Cargo Aircraft Only: 60 L

**Environmental Hazard:** Yes, Marine pollutant

### 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 components of this product are listed or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

**EPCRA Section 302 (40 CFR Part 355)** (Emergency Response Planning, Extremely Hazardous Substance):

No components are subject to the reporting.

**EPCRA Section 304 (40 CFR Part 355)** (Emergency Release Notification Requirements):

No components 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 Part 372)** (Toxic Chemical Release Inventory Reporting):

No components are subject to the reporting.

**CERCLA Sections 102-103 (40 CFR Part 302)** (Hazardous Substances Release Notification):

No components are subject to the reporting.

**Clean Air Act:**

- Ozone Depleting Substances (ODS): This product does not contain and is not manufactured with ozone depleting substances.
- Hazardous Air Pollutants, OSHA, Section 112(b), Table Z-1:

Substance		Regulatory Limits			Recommended Limits	
		OSHA PEL		Cal/OSHA PEL	NIOSH REL	
		ppm	mg/m <sup>3</sup>	8-hour TWA, mg/m <sup>3</sup>	Up to 10-hour TWA, mg/m <sup>3</sup>	ACGIH® 2015 TLV® 8-hour TWA, mg/m <sup>3</sup>
Titanium Dioxide, CAS #: 13463-67-7	Total dust	-	15	10 (as PNOR)	2.4 mg/m <sup>3</sup> (fine) 0.3 mg/m <sup>3</sup> (ultrafine), Ca See Appendix A & C	10
Hydrated Aluminum Silicate (Kaolin), CAS #: 1332-58-7	Total dust	-	15	-	10	-
	Respirable fraction	-	5	2 *	5	2 *
Aluminum Oxide, CAS #: 1344-28-1	Total dust	-	15	10	-	-
	Respirable fraction	-	5	5	-	1

Ca - Potential occupational carcinogens; ppm-parts per million; Appendix A, C and D refers to Appendixes of HAP List, Section 112(b) of Clean Air Act

NIOSH IDLH: Titanium dioxide, CAS #: 13463-67-7: 5000 mg/m<sup>3</sup>, Ca

**Clean Water Act:**

- Section 307(a) (Toxic pollutants): No components are listed.
- Section 311(b)(2): Table 116.4A (Hazardous chemicals) / Table 117.3 (RQ): No components are listed.

**NFPA rating:** Health: 3 Fire: 1 Reactivity: 1 Special: 0

**HMIS rating:** Health: 3\* Flammability: 1 Physical hazard: 1

**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.

- Titanium dioxide (airborne, unbound particles of respirable size), CAS #: 13463-67-7
  - causes cancer; Date listed: September 2, 2011

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

**International Regulations/Inventories:**

Canada: All ingredients of this product are listed or are exempt from the DSL.

WHMIS Classification (Controlled Products Regulations): Class D2B: Material causing other toxic effects

WHMIS Label Information: Class E: Corrosive


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

GHS	Globally Harmonized System
CAS	Chemical Abstracts Services
EC	European Community
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
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
COD / BOD	Chemical Oxygen Demand / Biological Oxygen Demand
STOT, SE	Specific Target Organ Toxicity following Single Exposure
STOT, RE	Specific Target Organ Toxicity following Repeated Exposure
DOT	Department of Transportation
IMDG	International maritime dangerous goods code
IATA, ICAO	International Air Transport Association, International Civil Aviation Organization
TSCA	Toxic Substances Control Act
EPCRA	Emergency Planning and Community Right-to-Know Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations



RQ                      Reportable Quantity  
DSL                    Domestic Substance List  
WHMIS                Workplace Hazardous Materials Information System

**Latest revision date:** June 22, 2016 – Preparation of SDS in accordance to the GHS requirements

**Date of the previous revision:** Not available

**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.