Rhino Linings®
SAFETY DATA SHEET

Part No.: 50518

Released: January 18, 2016

PRODUCT NAME(S): Rhino Adhesion Promoter

SECTION 1 – IDENTIFICATION

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

Product name: **Rhino Adhesion Promoter**

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

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
Acute Toxicity, Inhalation (mist)	5	H333	May be harmful if inhaled
Skin corrosion / irritation	1B	H314	Causes severe skin burns and eye damage.
Serious eye damage / Eye irritation	1	H318	Causes serious eye damage.
Aspiration hazard	2	H305	May be harmful if swallowed and enters airways
Reproductive Toxicity	1B	H360	May damage fertility or the unborn child
Specific target organ toxicity, single exposure	3	H335 H336	May cause respiratory irritation May cause drowsiness or dizziness
Specific target organ toxicity, repeated exposure	2	H373	May cause damage to kidney, liver, urinary tract, respiratory, nervous and cardiovascular system through prolonged or repeated exposure by inhalation
Flammable Liquids	4	H227	Combustible liquid

Precautionary Statements:

Prevention:	P201	Obtain special instruction before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P281	Use personal protective equipment as required.
	P260	Do not breathe mist/vapors.
	P271	Use only outdoors or in a well-ventilated area.
	P264	Wash exposed area with plenty of water and soap thoroughly after handling.
	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Response:	P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
	P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
	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.
	P310	Immediately call a POISON CENTER or doctor/physician.
	P308 + P313	IF exposed or concerned: Get medical advice/attention.
	P363	Wash contaminated clothing before reuse.
	P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:	P403 + P233 + P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
	P405	Store locked up.

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: See Section 11 for additional information.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EC #	Concentration, %
Confidential Component 1	Trade Secret	Trade Secret	60 – 90
Propylene Carbonate	108-32-7	203-572-1	15 – 30
Confidential Component 1	Trade Secret	Trade Secret	1 – 5

SECTION 4 – FIRST-AID MEASURES

Description of First Aid measures:

Inhalation: Remove exposed person to fresh air and keep at rest in a position comfortable for breathing.
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.
Get medical advice/attention if experiencing respiratory problems.

Skin: Immediate medical attention required. Call a poison center or physician. Chemical burns must be treated promptly by a physician or dermatologist. 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.

Eye: Immediate medical attention required. Call a poison center or physician. Chemical burns must be treated promptly by a physician or ophthalmologist.
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.

Ingestion: Immediate medical attention required. Call a poison center or physician. Remove exposed person 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 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 victim is unconscious or having convulsions.

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.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Those recommended for Class B fuels: 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: Flammable Liquid, Category 4 per GHS. If heated above its flash point, product will release flammable vapors which can burn in the open or be explosive in confined spaces if exposed to ignition source. Vapors may travel considerable distance to a source of ignition and flash back. Mists or sprays may be flammable below oils normal flash point. 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. Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. If released, product may float and ignite on surface of water.

- Confidential Component 1, CAS #: Trade Secret: Flash Point: 91°C (196°F); Flammable Liquid, Category 4 per GHS; Combustible Liquid, Class IIIA per OSHA 29 CFR 1910.106
- Confidential Component 3, CAS #: Trade Secret: Flash Point: 66°C (151°F); Flammable Liquid, Category 4 per GHS; Combustible Liquid, Class IIIA per OSHA 29 CFR 1910.106

Hazardous combustion products: carbon and nitrogen oxides, amines, nitric acid, formaldehyde, 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. Prevent static discharge. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. No action should be taken involving any personal risk or without suitable training.
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 personnel away. Ensure adequate ventilation/exhaust extraction. Avoid breathing vapors or mist during clean up. Eliminate all sources of ignition. Beware of vapors accumulating to form explosive concentrations. 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. See Section 12 for more details.

Methods and materials for containment and cleaning up: Remove mechanically (by non-sparking tools); cover the remainder with non-combustible absorbent material (e.g. 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. Keep in a well ventilated area. Properly dispose of the waste material in accordance with existing federal, state and local regulations.
For major spills: Keep away from heat. Keep away from sources of ignition. 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: Eliminate all sources of ignition. All equipment must conform to applicable electrical code. Use clean non-sparking tools. Carefully vent any internal pressure before removing closure. Handle empty containers with care; vapor/residue may be ignited and explode.
Avoid exposure to heat and air. Use adequate ventilation to keep airborne levels below the exposure limits. Do not inhale vapors and mists. Wear respiratory protection if material is heated 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. Ground and bond containers and equipment. Use appropriate containment to avoid environmental contamination.

Storage stability: Stable under normal conditions.
Storage temperature: 68 - 90°F (20 - 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 are listed in Section 15.

Appropriate engineering controls: Use only with adequate ventilation. Provide process enclosures, local exhaust ventilation or other engineering controls to maintain recommended PEL. All equipment must conform to applicable electrical code. Use clean non-sparking tools.

Personal protective equipment:
Eye/face protection:

When directly handling liquid product, eye protection is required. Examples of eye protection include safety glasses and goggles. Contact lenses should not be worn when working with chemicals.

Skin/body protection:

Product easily penetrates the skin and may carry other dissolved chemicals into the body, therefore glove selection is very important. Butyl rubber, fluoroelastomer, neoprene, or thick (15 mil) latex gloves are recommended. Commonly used nitrile gloves may protect from brief contact, but have been found to degrade rapidly with exposure to the 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. 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 that is recommended for use in solvent- containing areas. 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. Clean water should always be readily available for emergency skin and eye washing. Emergency eyewash fountains and safety shower should be in close proximity.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Transparent Liquid
Odor:	Strong
Odor threshold:	Not available
pH:	Not available
Melting point/ freezing point:	Not available for mixture; CC1: -24°C (-11°F)
Initial boiling point and boiling range:	>180°C (356°F)
Flash point:	Not available for mixture; CC1: 91°C(196°F)
Evaporation rate:	Not available
Flammability (solid, gas):	Not available
Upper/ lower flammability or explosive limits:	Not available for mixture; CC1: NMP: 9.5%(V) / 1.3% (V);
Vapor pressure:	Not available for mixture; CC1: 0.24 mmHg @ 20°C
Vapor density:	Not available for mixture; Relative vapor density: CC1: 3.4 (air=1.0)
Relative density:	1.00-1.10 @ 20°C
Solubility (water):	Completely soluble in water; Soluble in organic solvents;
Partition coefficient n-octanol/water:	Not available for mixture; CC1: -0.46 @25°C
Auto-ignition temperature:	>200°C
Decomposition temperature:	Not available
Viscosity:	< 10 mPa.s @ 20°C

CC1= Confidential Component 1

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: Product will not undergo hazardous polymerization. Corrosive effects to metal are anticipated. Based on its structural properties the product is not classified as oxidizing. Vapors may form explosive mixture with air. Has a strong water affinity; if left exposed it will become rapidly diluted.

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: Excessive heat (temperatures exciding the flash point), open flame and sparks, mist formation.
Product can decompose at the boiling temperature at normal pressure, possibly leading to an explosion. The decomposition is catalyzed by acids and bases and therefore can be relevant at even lower temperatures.

Incompatible materials: Strong oxidizing and reducing agents, alkali metals; organic and mineral acids, acyl halides, halogenated compounds, peroxides.

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, nitric acid, formaldehyde, 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 and diarrhea.
Dermal: May be harmful in contact with skin. Adverse symptoms may include pain, redness, blistering, dryness and cracking.
Inhalation: May be harmful if inhaled, especially 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, and difficulties with breathing, respiratory arrest, dizziness and drowsiness.

Skin corrosion / irritation:

Corrosive! Damages skin if not removed immediately. A more severe response may be expected if skin is abraded (scratched or cut). Adverse symptoms may include redness, defatting, dryness, cracking, rash and dermatitis. Product is rapidly absorbed through skin and has the potential to carry toxic materials or materials of unknown toxicity into the body.

Serious eye damage / eye irritation:

May cause serious eye damage. Adverse symptoms may include blurry vision, stinging, tearing, redness, swelling, burning and in the worst case blindness.

Specific target organ toxicity, single exposure:

This product contain component that may target organs after single exposure:

Confidential Component 1, CAS #: Trade Secret

Aspiration hazard: Not an aspiration hazard.

Chronic toxicity:

Respiratory and Skin Sensitizer:

This product does not contain components known or reported to be a skin or respiratory sensitizer.

Germ cell mutagenicity:

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

Carcinogenicity:

This product contains component which cause concern due to possible carcinogenic effects, but for which the available information is not adequate for making a satisfactory assessment.

Reproductive toxicity:

May damage fertility or the unborn child.

Confidential Component 1, CAS #: Trade Secret

Specific target organ toxicity, repeated exposure:

Kidney, liver, urinary tract, blood, eyes, skin, respiratory and nervous system.

Medical conditions aggravated by overexposure:

Kidney, liver, urinary tract, respiratory and nervous system, eye, skin and blood disorders if product is handled without adequate protection.

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

Components	Test Results
Confidential Component 1, CAS #: Trade Secret	Acute Toxicity Oral LD50 (Rat): 2,000-5,000 mg/kg (OECD Test Guideline 401) Dermal LD50 (Rat): >5,000 mg/kg (OECD Test Guideline 402) Inhalation LC50 (Rat), 4hrs: >5.0 mg/L (OECD Test Guideline 403) Skin corrosion/irritation (Rabbit): Irritating to skin (OECD Test Guideline 404) Serious eye damage/eye irritation (Rabbit): Irritating to eyes (OECD Test Guideline 405) STOT, SE: may cause respiratory irritation; Category 3 Aspiration hazard: No data available Chronic toxicity Sensitization, skin and respiratory (Mouse): Not skin sensitizer (Lymph node assay) (OECD Test Guideline 429) (based on similar substances) Germ cell mutagenicity: negative In vitro: (Salmonella typhimurium): with and without metabolic activation (Ames test) (OECD Test Guideline 471): negative In vivo: Oral (Mouse): at 950, 1900 and 3800 mg/kg bw (micronucleus test) (OECD Test Guideline 474): negative Mammalian cell cultures: negative Carcinogenicity: Oral (mouse), 18months: at doses 0, 600, 1200, 7200 ppm; NOAEL: 600 ppm; limited evidence of carcinogenic effects; symptoms: increased incidence of hepatocellular carcinomas (OECD Test Guideline 451); Not classifiable as human carcinogen Reproductive toxicity: Presumed human reproductive toxicant. Teratogenic effects, developmental toxicity occurred at maternal toxicity dose levels. Oral (Rat): Two generation study at doses 0, 50, 160, 500/350 mg/kg bw; General Toxicity, Parent: NOEAL: 350 mg/kg bw; General Toxicity, F1: NOEAL: 160 mg/kg bw, reduced embryonic survival (OECD Test Guideline 416): detected embryonic effects and adverse effects on offspring / Effects on fetal development: Oral (Rat), 10days: at doses 0, 125, 250, 500 and 750 mg/kg bw; Maternal toxicity: NOAEL: 125 mg/kg bw; Teratogenicity: NOAEL: 250 mg/kg bw; Embryo-fetal toxicity: 125 mg/kg bw. Symptoms: skeletal and visceral malformations, reduced number of viable fetuses (OECD Test Guideline 414) STOT, RE: Oral (Rat), 90days/daily: doses: 3,000, 7,500 and 18,000 ppm; NOAEL: 3,000; LOAEL: 7,500 ppm (OECD Test Guideline 408) Prolonged or repeated exposure can cause vomiting, diarrhea, abdominal pain. (Rat), 10days at 1mg/L aerosol showed depletion of hematopoietic cells in the bone marrow and atrophy of the lymphoid tissues.
Propylene Carbonate, CAS #: 108-32-7	Acute Toxicity Oral LD50 (Rat): >5,000 mg/kg (OECD Test Guideline 401) Dermal LD50 (rabbit): >2,000 mg/kg (OECD Test Guideline 402) Skin corrosion/irritation (Rabbit): not irritant (Draize test) Serious eye damage/eye irritation (Rabbit): irritating (OECD Test Guideline 405) (Draize test) STOT, SE: not classified as specific target organ toxicant Chronic toxicity Respiratory or skin sensitization: not sensitizing (Patch test on human volunteers) Germ cell mutagenicity: Did not show mutagenic effects in animal experiments. Carcinogenicity: Did not show carcinogenic effects in animal experiments. Species: mouse, (male) Dermal, 104 weeks/2 times a week, dose: 0, 50 ul/application: NOAEL: 50 ul/application Reproductive toxicity: Did not show teratogenic effects in animal experiments. Effects on fertility: No data available Effects on fetal development: Oral (Rat), Duration of Single Treatment: 10 days: Dose: 0, 1000, 3000, 5000 mg/kg/day; General Toxicity: Maternal: NOAEL: 1,000 mg/kg body weight Teratogenicity: NOAEL: > 5,000 mg/kg body weight; Developmental Toxicity: NOAEL: > 5,000 mg/kg body weight; Symptoms: Maternal

	toxicity, Reduced body weight. No teratogenic effects. STOT, RE: Inhalation (Rat, male and female) 13weeks /5days a week /6hrs a day: Dose: 0, 100, 500, 1000 mg/m^3; NOAEL: 100 mg/m^3: Symptoms: eye irregularities, causes serious eye irritation.
Confidential Component 2, CAS #: Trade Secret	Acute toxicity: Oral (Rat): LD50: 300-2,000 mg/kg. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Category 4 Dermal (Rabbit): LD50: 200-1,000 mg/kg; Category 3 Inhalation (Rat), 4hrs: 4 mg/L (aerosol); Category 4. Can cause severe eye, skin and respiratory tract burns. Extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Effects: spasm, inflammation and edema of the larynx and the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, shortness of breath, headache, nausea, stomach irregularities (based on human evidence). Exposure to vapors at 90 ppm caused mortalities after 3-4 days and at 47 ppm, after 6-9 days. Skin corrosion/irritation (Rabbit): Corrosive. Causes skin burns. Serious eye damage/eye irritation (Rabbit): Severe eye damage. Causes eye burns. May cause blindness. When exposed to vapors, exposed individuals may see rings around bright lights (a perception of "blue haze" or "fog"). This effect is temporary and has no known residual effect. Vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere. STOT, SE: May cause irritation of respiratory system. Aspiration Hazard: No data available. Chronic toxicity: Respiratory or skin sensitization: did not cause sensitization in laboratory animals. Germ cell mutagenicity: No data available. Carcinogenicity: This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Reproductive Toxicity: No data available. STOT, RE: Stomach, liver, respiratory system (lungs), eyes, skin, urinary tract, peripheral nervous system. Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause sore throat, eye and skin disorders, allergies, urinary disturbance, neurological disorders. Exposed workers should be carefully monitored for potential disorders of the nervous and genito-urinary system.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: Not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability: Not known.
Bioaccumulative potential: Not known.

Mobility in soil: Not known.
Other adverse effects: Not known.

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

Components	Test Results
Confidential Component 1, CAS #: Trade Secret	Acute toxicity Fish (rainbow trout), 96hrs: LC50: >100 mg/L (static test) Aquatic invertebrates (Daphnia magna), 24hrs: EC50: >100 mg/L (static test) Aquatic plants (green algae), 72hrs: EC50: >100 mg/L; growth rate (static test) Microorganisms (bacteria): LC50: 9,000 mg/L Ecological Data Persistance and Biodegradability (activated sludge), 28 days: 73% - Readily biodegradable (OECD Test Guideline 301C) Bioaccumulation: partition coefficient n-octanol/water: log Pow: -0.38 Mobility in soil: No data available Results of PBT and vPvB assessment: No data available
Propylene Carbonate, CAS #: 108-32-7	Acute Toxicity Fish: (Carp), LC50, 96hrs: >1,000 mg/L (OECD Guideline 203, semi-static) Aquatic invertebrates (daphnia magna), EC50, 48hrs: >1,000 mg/L (OECD Guideline 202) Aquatic plants (algae), EC50, 72hrs: >900 mg/L (growth rate) (OECD Guideline 201, static) Microorganisms (bacteria), EC10, 16hrs: 7,400 mg/L (DIN 38 412 Part 8) 12.2 Ecological Data Persistence and degradability: (Activated sludge, domestic), at 20 mg/L Biodegradation: >90% in 29days (aerobic): Readily biodegradable Bioaccumulation: Bioconcentration factor (BCF): 3.0; Remarks: Bioaccumulation is unlikely. Partition coefficient: n-octanol/water: log Pow: -0.41 Mobility in soil: Not expected to adsorb on soil.
Confidential Component 2, CAS #: Trade Secret	Acute Toxicity: Fish, 96hrs: LC50: >100 mg/L (OECD Guideline 203) Aquatic Plants (algae), 72hrs: EC50: 10-100 mg/L (OECD Guideline 201, Growth Inhibition Test); NOEC: >1 mg/L Ecological Data: Persistence and degradability: Not readily biodegradable. (Activated sludge) at 30 mg/L: Theoretical BOD, 4 weeks: 0%. Hydrolysis is not expected to be an important environmental fate process since this compound lacks functional groups that hydrolyze under environmental conditions. Bioconcentration: An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. Mobility in soil: If released to soil, it is expected to have very high mobility based upon an estimated Koc of 13. However, the estimated pKa values are 8.14 and 9.21, indicating that this compound will exist almost entirely in the cation form at pH values of 5 to 9 in the environment and cations generally adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts. Therefore, volatilization from moist soil is not expected because the compound exists as a cation and cations do not volatilize. Volatilization from water surfaces is not expected from the same reasons. Volatilization from dry soil surfaces is expected based on an estimated vapor pressure of 0.75 mm Hg at 25°C. Results of PBT and vPvB assessment: expected to exist solely as a vapor in the ambient atmosphere. In the atmosphere, vapors are degraded by reaction with photochemically produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 6 hrs. Vapors are not degraded by direct photolysis by sunlight, since they do not contain chromophores that absorb at wavelengths >290 nm.

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. Preferred disposal method is burning in a chemical incinerator equipped with an afterburner and scrubber; extra care should be taken in igniting as this material is flammable.

Container disposal: Even after emptying, container may retain residues. Do not heat or cut empty container with electric or gas torch since highly toxic vapors and gases can be formed. Empty containers should be completely drained and safely stored until appropriately reconditioned or disposed through licensed contractor in accordance with government regulations.
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:
	Drum (<119 gallons per container)	Bulk (>119 gallons per container)		
UN number:	Non-regulated	UN 1993	Non-regulated	Non-regulated
UN proper shipping name:		Combustible liquid, n.o.s.		
Transport hazard class(es):		Combustible liquid		
Packing group:		II		
Hazard Label		1993 (Combustible)		

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):
Fire Hazard, Acute Health Hazard, Chronic Health Hazard
EPCRA Section 313 (40 CFR Part 372) (Toxic Chemical Release Inventory Reporting):
The following components are subject to the reporting:
Confidential Component 1, CAS #: Trade Secret: De Minimis: 1%
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: Not listed.

Occupational Exposure Limits:

- Confidential Component 1, CAS #: Trade Secret: TWA: 10 ppm. USA. WEEL; ACGIH BEI: 100 mg/L
- Confidential Component 2, CAS #: Trade Secret: TWA: 0.05 ppm; STEL: 0.15 ppm, 15 min

Clean Water Act: Section 311(b):
No components are subject to the reporting.

NFPA rating: Health: 2 Fire: 2 Reactivity: 0 Special: 0
HMIS rating: Health: 2* Flammability: 2 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.
Confidential Component 1, CAS #: Trade Secret: Date listed: June 15, 2001
- developmental

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

International Regulations/Inventories:
Canadian Regulations: All components of this product are listed or are exempt from the DSL.
WHMIS Classification (Controlled Products Regulations): Class D-2A: Material causing other toxic effects (Very Toxic)
WHMIS Label Information: Class D-2B: Material causing other toxic effects (Toxic)
Class E: Corrosive
Class B3: Combustible Liquid

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
PACs / PAHs	Polycyclic Aromatic Compounds / Polycyclic Aromatic Hydrocarbon Content
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
EHS	Extremely Hazardous Substances
DSL	Domestic Substance List
WHMIS	Workplace Hazardous Materials Information System

Latest revision date: January 18, 2016 – Preparation of SDS in accordance to the GHS requirements
Date of the previous revision: April 28, 2014

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.