

**PRODUCT NAME(S): TuffGrip® HP 11-35P 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:** TuffGrip® HP 11-35P Resin  
**Chemical Name:** Polyamine Blend  
**Chemical Family:** Polyurea Resin  
**Product Category:** Component of Polyurea 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:**  
 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	4	H302	Harmful if swallowed
Acute Toxicity, Dermal	4	H312	Harmful in contact with skin
Skin Corrosion/Irritation	1C	H314	Causes severe skin burns and eye damage
Serious Eye Damage/Eye Irritation	1	H318	Causes serious eye damage
Skin Sensitization	1A	H317	May cause an allergic skin reaction
STOT – Single Exposure	3	H335	May cause respiratory irritation
STOT – Repeated Exposure	2	H373	May cause damage to kidney, liver and pancreas through prolonged or repeated exposure
Aquatic Hazard – Acute	3	H402	Harmful to aquatic life
Aquatic Hazard – Chronic	3	H412	Harmful to aquatic life with long lasting effects

**Precautionary Statements:**

Prevention:	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P260	Do not breathe dust, fume, gas, mist, vapors, spray.
	P264	Wash exposed area with plenty of water and soap thoroughly after handling.
	P270	Do not eat, drink, and smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P272	Contaminated work clothing should not be allowed out of the workplace.
	P280	Wear protective gloves, protective clothing, eye protection, face protection.
	P273	Avoid release to the environment.

Response:	P301+P330+P331 P303+P361+P353  P363 P304+P340  P310 P305+P351+P338  P310 P308+P303 P391	<p><b>IF SWALLOWED:</b> Rinse mouth. Do NOT induce vomiting.</p> <p><b>IF ON SKIN (or hair):</b> Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.</p> <p><b>IF INHALED:</b> Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>Immediately call a POISON CENTER or doctor/physician.</p> <p><b>IF IN EYES:</b> Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>Immediately call a POISON CENTER or doctor/physician.</p> <p><b>IF exposed or concerned:</b> Get medical advice/attention. Collect spillage.</p>
Storage:	P402+P404 P405	<p>Store in a dry place. Store in a closed container.</p> <p>Store locked up.</p>
Disposal:	P501	<p>Dispose of contents/container to hazardous or special waste collection point in accordance with local, regional, national, international regulations.</p>
Hazards not otherwise classified (HNOC):		None known.

<b>SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS</b>
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Components	CAS #	EC #	Concentration, %
Polyoxypropylenediamine	9046-10-0	618-561-0	60 – 70
Diethyltoluenediamine (DETA)	68479-98-1	270-877-4	10 – 15
Confidential Component	Proprietary	Proprietary	5 – 10
Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester	136210-30-5	603-946-8	5 – 10

<b>SECTION 4 – FIRST-AID MEASURES</b>
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**Description of First Aid measures:**

**Inhalation:** 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. 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:** 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 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 24hours. DETA, which is an 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 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.

#### 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. May be harmful to the environment if released in large quantities. See Section 12.

**Methods and materials for containment and cleaning up:** Remove mechanically; 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. Cover container and remove from work 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. Never return spills to original containers for re-use.

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. 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. 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:** No Components are listed in the OSHA Occupational Chemical and/or OARS-WEEL Database.

**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. 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**

<b>Appearance:</b>	Yellow Liquid
<b>Odor:</b>	Slightly ammonia-like
<b>Odor threshold:</b>	Not available
<b>pH:</b>	10 – 11
<b>Melting point/ freezing point:</b>	Not available
<b>Initial boiling point and boiling range:</b>	>200°C
<b>Flash point:</b>	>200°C
<b>Evaporation rate:</b>	Negligible
<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>	1.00-1.05 @ 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>	>250°C
<b>Decomposition temperature:</b>	Not available
<b>Viscosity:</b>	300 – 400cps @ 25°C (77°F)

**SECTION 10 – STABILITY AND REACTIVITY**

**Reactivity:** Product will not undergo hazardous polymerization. Corrosive effects to metal are not anticipated. 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. 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, vomiting, and diarrhea.*

**Dermal:**

Harmful in contact with skin.

*Adverse symptoms may include pain or irritation, redness, blistering.*

**Inhalation:**

Not classified.

*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 severe skin burns and eye damage

*A more severe response may be expected if skin is abraded (scratched or cut).*

**Serious eye damage / eye irritation:**

Causes severe skin burns and eye damage

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

May cause respiratory irritation.

- Confidential Component – CAS # Proprietary

**Aspiration hazard:**

Not classified.

**Chronic Toxicity:**
**Respiratory and Skin Sensitizer:**

May cause an allergic skin reaction.

- Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester – CAS # 136210-30-5

**Germ cell mutagenicity:**

Not classified.

**Carcinogenicity:**

Not classified.

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

**Reproductive toxicity:**

Not classified.

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

May cause damage to kidney, liver and pancreas through prolonged or repeated exposure.

- Diethyltoluenediamine (DETA) – CAS # 68479-98-1

**Medical conditions aggravated by overexposure:**

Liver, kidney, pancreas, respiratory system and skin disorders if product is not handled with adequate protection.

**Toxicity test results:**

This product itself has not been tested. Information given is based on data on the components and the toxicology of similar products.

Components	Test Results
Polyoxypropylenediamine CAS # 9046-10-0	<p><u>Acute Toxicity</u>            Assessment of acute toxicity: Of low toxicity after single ingestion. Of low toxicity after short-term skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.            Oral LD50 (Rat): 2,885 mg/kg (similar to OECD Test Guideline 401)            Dermal LD50 (Rabbit): 2,980 mg/kg (similar to OECD Test Guideline 402)            Inhalation (Rat): &gt;0.74 mg/l (IRT), 8h. No mortality was observed.            Skin corrosion/irritation (Rabbit): Corrosive! Causes severe burns (similar to OECD Test Guideline 404)            Serious eye damage/eye irritation (Rabbit): Corrosive! Causes serious eye damage (similar to OECD Test Guideline 405)            Aspiration hazard: Not expected.</p> <p><u>Chronic Toxicity</u>            Sensitization: As the substance is corrosive, conducting sensitization studies is not feasible.            Reproductive: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).            Teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. Mortality observed in rabbits following oral gavage exposure to this corrosive substance. However, the relevance of this result for humans is unclear.            Carcinogenicity: No test data available.            Other: No experimental evidence available for genotoxicity in vitro (Ames test negative). Literature data.            STOT-SE: Based on the available information there is no specific target organ toxicity to be expected after a single exposure.            STOT-RE: No substance-specific organotoxicity was observed after repeated administration to animals. After repeated exposure the prominent effect is local irritation.</p>
Diethyltoluenediamine (DETA) CAS # 68479-98-1	<p><u>Acute Toxicity</u>            Oral LD50 (Rat): 738 mg/kg (OECD Test Guideline 401)            Dermal LD50 (Rat): &gt;2,000 mg/kg (OECD Test Guideline 402)            Skin corrosion/irritation (Rabbit): Non-irritating (OECD Test Guideline 404)            Eye Irritation (Rabbit): Irritating (US-EPA)</p> <p><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: 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-SE: No test data available.            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</p>

	Note: 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). Chronic ingestion may cause liver damage. Pancreas damage.
Confidential Component CAS # Proprietary	<u>Acute Toxicity</u> Oral LD50 (Rat): 2,690 mg/kg Dermal LD50 (Rabbit): 12,500 mg/kg Inhalation IRT (Rat), 8hrs: No mortality in animal studies. Skin corrosion/irritation (Rabbit): Irritating (OECD Guideline 404) Serious eye damage/eye irritation (Rabbit): Severely irritating <u>Chronic Toxicity</u> Skin Sensitization (Guinea pig): Non-sensitizer (Buehler Test) May cause irritation of respiratory tract.
Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediy)bis-, 1,1',4,4'-tetraethyl ester CAS # 136210-30-5	<u>Acute Toxicity</u> Oral LD50: 930 mg/kg (Rat) Dermal LD50: 2,000 mg/kg (Rabbit) Inhalation: Toxic by inhalation and ingestion. Causes irritation to the respiratory tract. Skin corrosion/irritation: Causes burns to exposed skin. Serious eye damage/eye irritation: Causes severe eye irritation and permanent eye damage. <u>Chronic Toxicity</u> Respiratory or skin sensitization: Can cause allergic skin reaction. Buehler Test – Guinea pig: No evidence of sensitization. Magnusson & Kligman guinea pig maximization study: Evidence of sensitization in 7 of 10 animals (intradermal induction - 0.1%; topical induction - 10%; challenge - 2% & 1%). Germ cell mutagenicity: Salmonella/microsome mutagenicity - no evidence of mutagenicity In vitro mammalian cell gene mutation test - Negative (OECD 476) In vitro chromosome aberration test - Negative (OECD 473) Micronucleus test (in vivo) - Negative, Mouse (OECD 474) Reproductive: NOEL 50 mg/kg/d, Rat (male) (OECD 421) NOEL 150 mg/kg/d, Rat(female) (OECD 421) Carcinogenicity: This product is not reported to have any carcinogenic effects. This product (or component) is not listed in IARC Monographs, the current NTP Report on Carcinogens or the current ACGIH TLVs as a carcinogen or potential carcinogen. OSHA does not regulate it as a carcinogen. STOT-SE: No data available. STOT-RE: No data available.

*The products in question have been evaluated against the Hazardous Products Regulations (WHMIS 2015) and no additional classifications, ingredient disclosure or exposure limits are required for those regulations.*

**SECTION 12 – ECOLOGICAL INFORMATION**
**Ecotoxicity:**

Acutely and chronically hazardous for aquatic organisms. Do not release into natural waters.

**Persistence and degradability:**

Not readily biodegradable by OECD criteria. In contact with water the substance will hydrolyze slowly.

**Bioaccumulative potential:**

No significant accumulation in organisms is expected.

**Mobility in soil:**

Not expected.

**Other adverse effects:**

Not known.

**Ecotoxicity test results:**

This product itself has not been tested. Information given is based on data on the components and the toxicology of similar products.

Components	Test Results
Polyoxypropylenediamine CAS # 9046-10-0	<u>Acute toxicity</u> Fish LC50: >15 mg/l, 96 h (OECD Guideline 203, semistatic), 772.14mg/l, 96 h (OECD Guideline 203, static) Aquatic invertebrates EC50: 80 mg/l, 48 h (OECD Guideline 202, part 1, static), 418.34mg/l, 48 h (Daphnia test, static) Aquatic plants EC50: 15 mg/l, 72 h (growth rate) (OECD Guideline 201, static), 141.72 mg/l, 72 h (ISO/DIS 10253, static). No observed effect concentration, 72hrs: 100 mg/L (ISO/DIS 10253, static) <u>Ecological Data</u> Activated sludge EC20, 3hrs: 380 mg/L (OECD Guideline 209) Biodegradation: Not readily biodegradable (by OECD criteria). Elimination information: 0 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

	<p>Stability in Water (Hydrolysis): <math>t_{1/2} &gt; 1</math> a (25 °C, pH value 7), (Directive 92/69/EEC, C.7) In contact with water the substance will hydrolyse slowly.</p> <p>Photodegradation: <math>t_{1/2}</math> (Indirect photolysis) 1.6 h; OH radical. After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.</p> <p>Bioaccumulation potential: No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).</p> <p>Mobility in soil: The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.</p> <p>Additional information: Adsorbable organically-bound halogen (AOX): This product contains no organically-bound halogen.</p>
Diethyltoluenediamine (DETD) CAS # 68479-98-1	<p><u>Acute Toxicity</u> Fish LC50 (Golden orfe): 194 mg/l, 48 h Invertebrates EC50 (Daphnia magna): 0.5 mg/l, 48 h Microorganisms EC10 (Pseudomonas putida): 170 mg/l, 24 h</p> <p><u>Ecological Data</u> Biodegradation, 28days: &lt;1 % (OECD Guideline 301D); COD: 2,370 mg/g Summary: Marine pollutant. Avoid release to environment.</p>
Confidential Component CAS # Proprietary	<p><u>Acute Toxicity</u> Fish LC50: &gt;100 mg/l, 96 h (OECD Guideline 203, static) Aquatic invertebrates EC50: 13 mg/l, 48 h (OECD Guideline 202, part 1, static) Aquatic plants EC50: 4.4 mg/l, 72 h (growth rate) (OECD Guideline 201, static)</p> <p><u>Ecological Data</u> Activated sludge (domestic) EC20, 30 min: ~130 mg/L (OECD Guideline 209, aerobic) Activated sludge (aerobic ) BOD, 28days: &lt; 5 % (OECD Guideline 301F) / 5days: 3% (OECD Guideline 111, pH7)</p>
Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester CAS # 136210-30-5	<p><u>Acute Toxicity</u> Fish LC50 (Fathead minnow): 66mg/l, 96 h Aquatic invertebrates EC50 (Water flea): 88.6 mg/l, 48 h Aquatic plants IC50 (Scenedesmus subspicatus): 113 mg/l, 72 h Microorganisms EC50 (Activated sludge): 3,110 mg/l, 3 h</p> <p><u>Ecological Data</u> Biodegradation: 13%, 28 d – Not readily degradable. Bioaccumulation: Value calculated, 1,872 BCF. The substance hydrolyzes rapidly in water. An accumulation in aquatic organisms is not to be expected.</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 Polyetherdiamine)	Amines, liquid, corrosive, n.o.s. (contains Polyetherdiamine)	Amines, liquid, corrosive, n.o.s. (contains Polyetherdiamine)
<b>Transport Hazard Class:</b>	8	8	8
<b>Packing Group:</b>	III	III	III
<b>Hazard Label:</b>	8	8	8

NOTE: This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.



**SECTION 15 – REGULATORY INFORMATION**
**U.S. FEDERAL REGULATIONS:**
**U.S. Toxic Substances Control Act:**

None present or none present in regulated quantities.

**US. EPA CERCLA Hazardous Substances (40 CFR 302) Components:**

None present or none present in regulated quantities.

**SARA Section 311/312 Hazard Categories:**

Refer to hazard classification information in Section 2.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:**

None present or none present in regulated quantities.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components:**

None present or none present in regulated quantities.

**US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):**

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

**State Right-To-Know Information**

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements contact the appropriate agency in your state.

**Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists:**

- Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, 1,1',4,4'-tetraethyl ester – CAS # 136210-30-5

**California Prop. 65 Components:**

This product contains no substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute unless otherwise listed. For more information, visit [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**NFPA Hazard Rating:**

HEALTH	FIRE	INSTABILITY	SPECIFIC
<b>3</b>	<b>1</b>	<b>0</b>	
0 = Normal 1 = Slight 2 = Hazardous 3 = Extreme Danger 4 = Deadly	(Flash Points) 0 = Will not burn 1 = Above 200°F 2 = Below 200°F 3 = Below 100°F 4 = Below 73°F	0 = Stable 1 = Unstable if Heated 2 = Violent Chemical Change 3 = Shock and Heat May Detonate 4 = May Detonate	ACID (Acid) ALK (Alkaline) COR (Corrosive) OXY (Oxidizer) <del>W</del> (Use No Water)

**HMIS Hazard Rating:**

HEALTH	FLAMMABILITY	REACTIVITY	PROTECTIVE EQUIPMENT
<b>3</b>	<b>1</b>	<b>0</b>	<b>X</b>
0 = Normal 1 = Slight 2 = Hazardous 3 = Extreme Danger 4 = Deadly			X = Ask your Supervisor or Safety Specialist for handling instructions

**Canada regulations/legislation:**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

**International Regulations/Inventories:**

No data available.

**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
EHS	Extremely Hazardous Substances
DSL	Domestic Substance List
RTECS	Registry of Toxic Effects of Chemical Substances
WHMIS	Workplace Hazardous Materials Information System

**Latest revision date:** June 29, 2021

**Date of the previous revision:** New Product

**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.