

PRODUCT NAME(S): Acid Stain – Earthstone

SECTION 1 – IDENTIFICATION

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

Product name: Acid Stain – Earthstone
Recommended use: The product is intended for professional use only

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 08



GHS 05



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	5	H313	May be harmful in contact with skin
Acute Toxicity, Inhalation	4	H332	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
Respiratory sensitization	1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin Sensitization	1	H317	May cause an allergic skin reaction
Germ cell mutagenicity	1B	H340	May cause genetic defects
Carcinogenicity	1A	H350	May cause cancer by skin absorption and inhalation
Reproductive Toxicity	1B	H360	May damage fertility or the unborn child
Specific target organ toxicity, single exposure	3	H335	May cause respiratory irritation
Specific target organ toxicity, repeated exposure	1	H372	Causes damage to kidneys, liver, cardiovascular, central nervous and respiratory system/lungs and skin through prolonged or repeated exposure
Aquatic Hazard, Acute	2	H401	Toxic to aquatic life
Aquatic Hazard, Chronic	2	H411	Toxic to aquatic life with long lasting effects

Precautionary Statements:

Prevention:	P201 P202 P281 P260 P271 P285 P270 P264 P272 P273	Obtain special instructions 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. In case of inadequate ventilation wear respiratory protection. 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.
Response:	P301 + P330 + P331 P303 + P361 + P353 P363 P304 + P340 P305 + P351 + P338	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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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	P310 P333 + P313 P308 + P313 P391	Immediately call a POISON CENTER or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Collect Spillage
Storage:	P403 + P233 P405	Store in a well-ventilated place. Keep container tightly closed. 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:		May be corrosive to metal.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EC #	Concentration, %
Manganese Chloride Tetrahydrate	13446-34-9	603-826-5	20 – 30
Iron Trichloride (Ferric Chloride)	7705-08-0	231-729-4	10 – 20
Sodium Dichromate	10588-01-9	234-190-3	1 – 10
Hydrochloric acid	7647-01-0	231-595-7	1 – 10

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

Inhalation:	Immediate medical attention required. Remove the 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. 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. For severe exposures, immediately get under safety shower and begin rinsing.
Eye:	Immediate medical attention required. Chemical burns must be treated promptly by a physician or ophthalmologist. Rinse immediately 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. Remove the exposed person to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any. If 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: Immediately call a poison center or doctor/physician. Show this SDS to physician.

Note to physician: Treatment should be symptomatic (decontamination, vital functions). Use of gastric lavage or vomiting is contraindicated. Consult poison specialist. Medical monitoring is necessary.

SECTION 5 – FIRE-FIGHTING MEASURES
Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: Not determined.

Specific hazards arising from the chemical: Noncombustible material. Contact with metals produces flammable and potentially explosive hydrogen gas. Hydrogen gas can be generated inside metal drums or storage tanks. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and removed from the danger area as well as empty drums which may contain residual material. In the case of fire, product will decompose to emit toxic and irritating gasses. Prevent by any means entering of spillage into soil, ditches, sewers, waterways and/or groundwater. Hazardous combustion products: hydrogen gas, hydrogen chloride, oxides of metals present in the product (Manganese, Iron, Chromium), etc.

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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.

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. Use protective equipment as described in Section 8. Do not touch or walk through spilled material.

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; cover the remainder with inert absorbent material. Following absorption, transfer into properly labeled chemical waste containers. Wash the spill site with soap and water. Cover container and remove from work area. Keep in 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: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe mists. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Wash face, hands, and any exposed skin thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. Contaminated work clothing should not be allowed out of the workplace. See Section 8 for additional information on hygiene measures.

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. 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.

Storage stability: Stable under normal conditions.

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: 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:

Impervious gloves (nitrile butyl rubber, neoprene or 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. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

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.

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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 are recommended in close proximity as a matter of good work practice.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Orange-brown liquid
Odor:	Pungent
Odor threshold:	Not available
pH:	2
Melting point/ freezing point:	Not available
Initial boiling point and boiling range:	Not available
Flash point:	Water solution, will not burn
Evaporation rate:	Not available
Flammability (solid, gas):	Not applicable
Upper/ lower flammability or explosive limits:	Not applicable
Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.20-1.40
Solubility (water):	Soluble
Partition coefficient n-octanol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: Product will not undergo hazardous polymerization under normal conditions of storage and use. Corrosive effects to metal are anticipated.

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: Avoid vapor and mist formation. Avoid heat.

Incompatible materials: Strong oxidizing and reducing agents; alkali metals, metal alloys, stainless steel, ethylene oxide, combustible materials, etc.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. In fire conditions, depending on temperature, air supply and presence of other materials, decomposition products can include, but are not limited to hydrogen gas, hydrogen chloride, oxides of metals present in the product (Manganese, Iron, Chromium).

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.

Dermal: May be harmful in contact with skin. May cause skin tissue damage after short exposure.

Inhalation: Harmful if inhaled. May cause chemical burns to the respiratory tract.

Skin corrosion / irritation:

Corrosive! Contact may result in severe burns and tissue damage.

Serious eye damage / eye irritation:

Causes serious eye damage. Adverse symptoms may include tearing, redness, swelling, burning and blindness.

Specific target organ toxicity, single exposure:

May cause respiratory irritation after single exposure.

Aspiration hazard: Not available.

Chronic toxicity:

Respiratory and Skin Sensitizer:

This product contains component that is reported to be a respiratory and/or skin sensitizer.

- Sodium Dichromate, CAS #: 10588-01-9 (Hexavalent Chromium): skin and respiratory sensitizer
- Iron Trichloride, CAS #: 7705-08-0: skin sensitizer

Germ cell mutagenicity:

This product contains components which may cause genetic defects.

- Sodium Dichromate, CAS #: 10588-01-9 (Hexavalent Chromium): Classified by GHS, Category 1.
- Manganese Chloride Tetrahydrate, CAS #: 13446-34-9: positive in some tests.
- Hydrochloric Acid, CAS #: 7647-01-0: positive in some tests.

Carcinogenicity:

This product contains components reported to be carcinogenic to humans:

- Sodium Dichromate, CAS #: 10588-01-9 (Hexavalent Chromium): IARC: Group 1 (Carcinogenic to humans)
- Hydrochloric Acid, CAS #: 7647-01-0: IARC: Group 3 (Not classifiable as to its carcinogenicity to humans)

Reproductive toxicity:

This product contains components which may impair fertility and cause harm to the unborn child.

- Sodium Dichromate, CAS #: 10588-01-9 (Hexavalent Chromium): Classified by GHS, Category 1.
- Manganese Chloride Tetrahydrate, CAS #: 13446-34-9: suspected, but not classified by GHS.
- Iron Trichloride, CAS #: 7705-08-0: suspected, but not classified by GHS.

Specific target organ toxicity, repeated exposure:

May cause damage to kidneys, liver, cardiovascular, central nervous and respiratory system/lungs, skin through prolonged or repeated exposure.

Medical conditions aggravated by overexposure:

Kidneys, liver, cardiovascular, central nervous and respiratory system/lungs, skin if product is handled without adequate protection.

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

Components	Test Results
Manganese Chloride Tetrahydrate, CAS #: 13446-34-9	<p><u>Acute Toxicity:</u> Oral LD50 (Rat): 1,484 mg/kg; Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Dermal LD50 (Rat): No data available. Inhalation LC50: May cause respiratory tract irritation. Skin corrosion/irritation (Rabbit): May cause skin irritation. Serious eye damage/eye irritation (Rabbit): Causes eye irritation. Severe eye irritant. STOT, SE: No data available. Aspiration hazard: No data available.</p> <p><u>Chronic toxicity:</u> Sensitization, skin and respiratory: No data available. Germ cell mutagenicity: Not classified per GHS. However, some Laboratory experiments have shown mutagenic effects. Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, OSHA and ACGIH. Reproductive toxicity: Not classified per GHS. However, man exposed to Manganese dusts showed a decrease in fertility. STOT, RE: Central Nervous System impairment To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p>
Iron Trichloride, CAS #: 7705-08-0	<p><u>Acute Toxicity:</u> Oral LD50 (Mouse): 1,300 mg/kg; Harmful if swallowed. May cause severe and permanent damage to the gastrointestinal system. May cause liver and kidney damage. May cause low blood pressure, rapid heartbeat, skin discoloration, and possible coma. Ingestion of iron compounds may cause hemorrhage and necrosis of the stomach with shock, severe diarrhea, and possible coma. Dermal LD50 (Rat): > 2,000 mg/kg (OECD Test Guideline 402). Inhalation LC50: Causes chemical burns to the respiratory tract. Skin corrosion/irritation (Rabbit): Causes skin burns, especially if the skin is wet or moist. May be absorbed through the skin. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. Serious eye damage/eye irritation (Rabbit): Causes serious eye damage. Causes eye burns. When substances becomes wet or comes in contact with moisture of the mucous membranes, it becomes an irritant. Iron particles which become imbedded in the eye may lead to siderosis in varying degrees. A yellowish green or brown discoloration of the eye is the first sign of siderosis. STOT, SE: May cause respiratory irritation. Aspiration hazard: Aspiration may lead to pulmonary edema.</p> <p><u>Chronic toxicity:</u> Sensitization, skin and respiratory: May cause an allergic skin reaction. Germ cell mutagenicity: No data available. Carcinogenicity: Not listed by ACGIH, IARC, NTP, or CA Prop 65. Reproductive toxicity: May cause adverse reproductive effects based on animal studies. STOT, RE: Kidneys, liver, cardiovascular system. Effects may be delayed.</p>
Sodium Dichromate, CAS #: 10588-01-9	<p><u>Acute Toxicity:</u> Oral LD50 (Rat): 50 mg/kg; Highly toxic. Causes burns, vomiting, digestive disorders, dizziness, convulsions, coma, and death. May cause effects on the kidneys and liver, resulting in tissue lesions. Dermal LPTC (Guinea pig): 338 mg/kg skin; Toxic. Symptoms similar as those by ingestion. Inhalation LC50 (Rat), 4hrs: 0.124 mg/L; A harmful concentration of airborne particles can be reached quickly when dispersed. Causes respiratory tract and mucous membrane burns. Skin corrosion/irritation (Rabbit): Corrosive. Serious eye damage/eye irritation (Rabbit): Corrosive. STOT, SE: No data available. Aspiration hazard: No data available.</p> <p><u>Chronic toxicity:</u> Sensitization, skin and respiratory: Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation exposure may cause asthma. Germ cell mutagenicity: May cause heritable genetic damage to human germ cells. Carcinogenicity: This substance is carcinogenic to humans. NTP: Known Human Carcinogen; IARC: Human Sufficient Evidence, Animal Limited Evidence, Group 1 (Hexavalent chromium compounds); ACGIH: A1 -Confirmed Human Carcinogen (Hexavalent chromium compounds); Reproductive toxicity: May be excreted in breast milk. Animal tests show that this substance possibly causes toxicity to human reproduction or development. STOT, RE: immune system (sensitizer), kidneys, liver and lungs/respiratory system damage; lack of sense of smell and taste, eyes, tooth decay, digestive disorders, asthma. Medical conditions aggravated by exposure: blood system disorders, heart or cardiovascular disorders, liver disorders, respiratory disorders, skin disorders and allergies.</p>
	<p>Causes burns by all exposure routes. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Use of gastric lavage or emesis is contraindicated.</p>

Hydrochloric Acid, CAS #: 7647-01-0	<p><u>Acute Toxicity:</u> Oral LD50 (Rat, female): 238-277 mg/kg (3.3% aqueous solution); (Rat): 700 mg/kg; (human): 60 mL - death (35% hydrochloric acid). Causes severe swelling, severe damage to the delicate tissue and danger of stomach or esophagus perforation. Dermal LD50 (Rabbit): >5,010 mg/kg Inhalation, gas LC50 (Rat), 60min: 4.2 mg/L; 30min: 5.7 mg/L; 5min: 23.7 mg/L. Causes burning sensation, cough, wheezing, shortness of breath, spasm, laryngitis, pneumonitis, pulmonary edema. Skin corrosion/irritation: Corrosive to skin. Causes burns. (Rabbit): 37% HCl, exposures 1h, 4h: caused severe damage; 0.5 mL of 3.3% HCl, exposure 5 days: moderately irritating; 0.5 mL of 1% HCl, exposure 5 days: not irritating. (Human): 4% HCl: slightly irritating, 10% solution: Irritating to skin. Serious eye damage/eye irritation: Corrosive to eyes. (Rabbit): Concentrations above 3.3% cause irritation, and/or prolonged exposure cause damage of the tissue. STOT, SE: Respiratory system. Category 3. Aspiration hazard: No data available. <u>Chronic toxicity:</u> Sensitization, skin and respiratory: negative. Germ cell mutagenicity: In vitro: consistent negative results obtained in the bacterial systems, positive results have been obtained in the non-bacterial systems. The positive results were observed at high concentration, but they were considered to be artifacts due to low pH. In vivo: Positive results were obtained in a sex linked recessive lethal study with D. melanogaster. There are no mammalian studies on in vivo. Carcinogenicity: IARC: Group 3 (Not classifiable as to its carcinogenicity to humans). There is an inadequate evidence for carcinogenicity in humans and in experimental animals. Reproductive toxicity: No reliable studies were identified regarding toxicity to reproduction and development in animals after oral, dermal or inhalation exposure to hydrogen chloride/hydrochloric acid. STOT, RE: No data available.</p>
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SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: Toxic to aquatic life with long lasting effects. Prevent release into the environment.

Persistence and degradability: Persistent.

Bioaccumulative potential: Not expected.

Mobility in soil: Likely highly mobile based on water solubility results.

Other adverse effects: Not known.

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

Components	Test Results
Manganese Chloride Tetrahydrate, CAS #: 13446-34-9	Harmful to aquatic life with long lasting effects. <u>Acute Toxicity:</u> Category 3 Aquatic Invertebrates (Daphnia magna), 48hrs: EC50: >11 mg/L (OECD Test Guideline 202) <u>Chronic toxicity:</u> Category 3 Fish (goldfish), 7days: LC50: 18.8 mg/L (OECD Test Guideline 203) <u>Ecological data:</u> No data available.
Iron Trichloride, CAS #: 7705-08-0	Acutely toxic to aquatic life. <u>Acute Toxicity:</u> Category 2 Fish (fathead minnow), 96hrs: LC50: 21.84 mg/L Aquatic Invertebrates (Daphnia magna), 48hrs: EC50: 9.6 mg/L <u>Ecological data:</u> No data available.
Sodium Dichromate, CAS #: 10588-01-9	Very toxic to aquatic life with long lasting effects. <u>Acute Toxicity:</u> Category 1 Fish (Fathead minnow), 96hrs: LC50: 33.2 mg/L Aquatic Invertebrates (Daphnia magna), 48hrs: EC50: 0.098 - 0.129: mg/L <u>Chronic toxicity:</u> Category 1 <u>Ecological data:</u> No data available.
Hydrochloric Acid, CAS #: 7647-01-0	<u>Acute Toxicity:</u> Fish (Carp), 96hrs: LC50: pH 4.3 (4.92 mg/L) (OECD guideline 203) (Rainbow trout), 96hrs: LC50: pH 4.12 (7.45 mg/L) for hard water and pH 3.98 (10.3 mg/L) for soft water. (Bluegill), 96hrs: LC50: pH 3.25-3.5 (55-31 mg/L); low pH caused a reduction in the oxygen carrying capacity of hemoglobin and excessive secretion of mucus. Aquatic Invertebrates (Daphnia magna), 48hrs: EC50: pH 5.3 (0.492 mg/L) (OECD Test Guideline 202) Aquatic Plants (algae), 72hrs EC50 and NOEC based on growth rate are pH 5.3 (0.492 mg/L) and pH 6.0 (0.097 mg/L) (OECD guideline 201) <u>Ecological data:</u> No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product Disposal: The generation of waste should be avoided or minimized wherever possible. If product becomes a waste, it meets criteria of hazardous waste as defined in 40 CFR 261, Subpart C and D. Do not discharge into sewer system. Spill cleanup residues are subject to RCRA storage and disposal requirements. Dispose waste in compliance with local, state and federal regulations via licensed waste disposal contractor.

Unlisted hazardous wastes characteristic of toxicity: Chromium: RCRA Code: D007. RQ: 10 lbs

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:
UN number:	UN 3264	UN 3264	UN 3264
UN proper shipping name:	Corrosive liquid, acidic, inorganic, n.o.s. (Contains Sodium Dichromate and Iron Trichloride)	Corrosive liquid, acidic, inorganic, n.o.s. (Contains Sodium Dichromate and Iron Trichloride)	Corrosive liquid, acidic, inorganic, n.o.s. (Contains Sodium Dichromate and Iron Trichloride)
Transport hazard class(es):	8	8	8
Packing group:	II	II	II
Hazard Label	8	8	8
Special precautions:	Environmental Hazard: Yes, Marine Pollutant Shipping descriptions are provided for informational purposes and do not consider container sizes and packaging. Certain exceptions may be applied as outlined in 49 CFR 173.154. Special Provisions: B2, IB2, T11, TP2, TP27 Exceptions: 154; Non bulk: 202 / Bulk: 242 / Passenger aircraft rail: 1L / Cargo aircraft only: 30L / Location: B		

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, Reactive Hazard

EPCRA Section 313 (40 CFR Part 372) (Toxic Chemical Release Inventory Reporting):

The following components are the subject for reporting:

- Manganese compounds, N450: in Product: 20-30% De Minimis: 1.0%
- Sodium Dichromate, CAS #: 10588-01-9: in Product: 1-10% De Minimis: 0.1% for Chromium (VI) Compounds
- Hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size), CAS #: 7647-01-0: in Product: 1-10% De Minimis: 1.0%

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

The following components are listed:

- Manganese compounds, N450: RQ: not assigned
- Iron Trichloride, CAS #: 7705-08-0: RQ: 1,000 lbs
- Sodium Dichromate, CAS #: 10588-01-9: RQ: 10 lbs
- Hydrochloric Acid, CAS #: 7647-01-0: RQ: 5,000 lbs

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	ACGIH® 2015 TLV®
	ppm	mg/m ³	(as of 4/26/13) 8-hour TWA, mg/m ³	(as of 4/26/13) Up to 10-hour TWA, mg/m ³	8-hour TWA, mg/m ³
Manganese Compounds (as Mn), CAS #: 7439-96-5		(C) 5	0.2	1; (ST) 3 IDLH: 500 mg/m ³ Mn	0.02 (resp.) 0.1 (IHL) (for elemental and inorganic compounds)
Chromium (VI) Compounds, CAS #: 18540-29-9	-	-	0.005 as Cr (C) 0.1	Ca; 0.001 See Appendix A & C	0.05 water soluble (includes chromic acid & chromates)
Hydrogen Chloride, CAS #: 7647-01-0	(C) 5	(C) 7	(C) 5 ppm	(C) 5 ppm	(C) 2 ppm

ppm-parts per million; (C)-Ceiling; Ca-Potential occupational carcinogens; Appendix A, C refers to Appendixes of HAP List, Section 112(b) of Clean Air Act
NIOSH IDLH: 500 mg/m³ Mn; 15 mg/m³ Cr(VI); 50 ppm Hydrochloric acid, CAS #: 7647-01-0

Exposure limits for components not listed by OSHA:

- Iron Trichloride, CAS #: 7705-08-0:
 - ACGIH TLV: 1 mg/m³ TWA (as Fe) (listed under Iron salts (soluble)).
 - NIOSH REL: 1 mg/m³ TWA (as Fe) (listed under Iron salts (soluble)).

Clean Water Act:

- Section 307(a): (Priority Toxic Pollutants 40 CFR 401.15)
 - Chromium and Compounds
- Section 311(b): (Hazardous substances, Table 116.4)
 - Iron Trichloride, CAS #: 7705-08-0: RQ: 1,000 lbs
 - Sodium Dichromate, CAS #: 10588-01-9: RQ: 10 lbs
 - Hydrochloric Acid, CAS #: 7647-01-0: RQ: 5,000 lbs

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RCRA Codes: Chromium: D007 RQ: 10 lbs

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

HMIS rating: Health: 3* Flammability: 0 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.

- o Chromium (VI) Compounds, CAS #: 18540-29-9
 - causes cancer; Date listed: February 27, 1987
 - developmental (female, male); Date listed: December 19, 2008

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

International Regulations/Inventories:

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

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 / PAH	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
DSL	Domestic Substance List
WHMIS	Workplace Hazardous Materials Information System

Latest revision date: March 29, 2016 – Preparation of SDS in accordance to the GHS requirements

Date of the previous revision: September 6, 2011

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.