

PRODUCT NAME(S): Metal Fusion Pigment – Meteorite, Metallic Jade

SECTION 1 – IDENTIFICATION

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

Product name: Metal Fusion Pigment –
Meteorite, Metallic Jade

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:**
WARNING

Pictogram(s):



GHS 08



GHS 07



GHS 09

Classification of the substance or mixture:

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Acute Toxicity, Oral	4	H302	Harmful if swallowed
Acute Toxicity, Inhalation (dust)	4	H332	Harmful if inhaled
Skin corrosion / irritation	2	H315	Causes skin irritation
Serious eye damage / Eye irritation	2A	H319	Causes serious eye irritation
Skin Sensitization	1	H317	May cause an allergic skin reaction
Specific target organ toxicity, single exposure	3	335	May cause respiratory irritation
Specific target organ toxicity, repeated exposure	2	H373	May cause damage to kidney, liver, blood, lungs/ respiratory system, skin and eyes through prolonged or repeated exposure May cause damage to lungs and respiratory system, through prolonged or repeated exposure by inhalation
Aquatic Hazard, Acute	1	H400	Very toxic to aquatic life
Aquatic Hazard, Long term	1	H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements:

Prevention:	P260 P271 P280 P264 P272 P270 P273	Do not breathe dusts/fumes/mists. Use only outdoors or in a well-ventilated area. Wear protective gloves/ protective clothing / eye protection/ face protection. Wash exposed area with plenty of water and soap thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink, and smoke when using this product. Avoid release to the environment.
Response:	P301 + P330 + P312 P302 + P352 P362 P333 + P313 P305 + P351 + P338 P337 + P313 P304 + 340 + P312 P391	IF SWALLOWED: Rinse mouth. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. 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.

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Hazards not otherwise classified: Combustible Dust; see Sections 5. See Section 11 for additional health info.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EC #	Concentration, %
Copper	7440-50-8	231-159-6	70 – 90
Zinc	7440-66-6	231-175-3	10 – 30

SECTION 4 – FIRST-AID MEASURES

Description of First Aid Measures:

- Inhalation:** Remove the exposed person to fresh air and keep at rest in a position comfortable for breathing. Inhalation of large amounts of the product requires immediate medical attention.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed.
- Skin:** Heavy exposure to the product requires prompt attention. Quickly and gently brush away excess product. Immediately wash material off of the skin thoroughly with lukewarm, gently flowing water and non-abrasive pH natural soap for at least 15 minutes. Remove contaminated clothing and shoes and wash them before reuse. Seek medical attention if irritation develops or persists.
- Eye:** Immediately flush eyes with plenty of water for several minutes, especially under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Do not rub eyes in order to prevent cornea injury. Injuries must be treated promptly by a physician or ophthalmologist.
- Ingestion:** Remove the exposed person to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any. If conscious, rinse mouth thoroughly with water and then give 60 to 240 mL (2 to 8 oz) of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Never induce vomiting or give anything by mouth if the 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: Show this SDS to physician.

Note to physician: Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient. Individuals with Wilson's disease are more susceptible to chronic copper poisoning. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Recommended medical monitoring for at least 24 hours.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry sand, graphite, dolomite, or Met-L-X powder.

Unsuitable extinguishing media: Do not use water. Extinguishing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment.

Specific hazards arising from the chemical: Finely divided metal powder with particles sizes $\leq 50 \mu\text{m}$ dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. Not easily ignited by sparks. If ignited, it may burn rapidly with flare burning effect and may re-ignite after fire is extinguished. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. Hazardous combustion products: copper oxides and copper fumes.

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.

Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Ensure adequate ventilation/exhaust extraction. Avoid breathing dust during clean up. Take precautionary measures against static discharges when cleaning up. Use protective equipment as described in Section 8.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater, basements or confined areas. 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: Move containers from spill area. Avoid dust generation. Do not dry sweep.

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Vacuum dust with equipment fitted with HEPA filter and place in a designated labeled waste container. Seal the container, and properly dispose of the waste material in accordance with existing federal, state and local regulations.

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: Avoid generating and do not breathe dust. Do not rely on your sight to determine if dust is in the air. Use adequate ventilation and/or dust collection methods to keep airborne levels below the exposure limits. Maintain and test ventilation and dust collection equipment. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Take precautionary measures against static discharges. Wear appropriate respiratory, eye and skin protection. Avoid contact with skin and eyes. Wash hands thoroughly after handling. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. 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. Wash or vacuum clothing when becomes dusty.

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), food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed. Protect chemical from atmospheric moisture.

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: Results are listed in Section 15.

Appropriate engineering controls: Good local and general explosion-proof ventilation should be sufficient to control worker exposure to airborne contaminants below recommended exposure limits.

Personal protective equipment:

Eye/face protection:

When directly handling product, eye protection is required. Examples of eye protection include safety glasses with side shields or chemical goggles. Contact lenses should not be worn when working with this product. Dust can get under the lenses and cause abrasion of the cornea.

Skin/body protection:

Impervious gloves should be worn when working with this product. Do not get product inside gloves. 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. Wash contaminated clothing when becomes dusty.

Respiratory protection:

Use local or general ventilation to control exposures below applicable exposure limits. When ventilation is inadequate, use properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and assigned protection factor of the selected respirator.

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

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Powder
Odor:	Odorless
Odor threshold:	Not applicable
pH:	Not applicable
Melting point/ freezing point:	Copper: 1,083°C (1,981°F); Zinc: 420°C (788°F)
Initial boiling point and boiling range:	Copper: 2,595°C (4,703°F); Zinc: 907 °C (1,665 °F)
Flash point:	Not applicable.
Evaporation rate:	Not applicable
Flammability (solid, gas):	May form combustible dust concentrations in air
Upper/ lower flammability or explosive limits:	Not available
Vapor pressure:	Negligible

Vapor density:	Not applicable
Relative density:	8.3 – 8.7
Solubility (water):	Insoluble
Partition coefficient n-octanol/water:	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not applicable

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: Product will not undergo hazardous polymerization. May form flammable gases in the presence of water.

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: Generation of dust, unintentional contact with moisture, excessive heat, open flame and sparks.

Incompatible materials: Strong oxidizing agents; Strong acids. Strong bases. Halogens. Anhydrous ammonia. Acetylene gas, Hydrogen peroxide, Ethylene oxide.

- Copper is explosively incompatible with sodium azide.
- Copper dusts may react with acetylene gas to form copper acetylides, which are sensitive to shock.
- Reacts violently with hydrogen peroxide and other oxidizers. Reaction with acids could produce hydrogen and noxious gases.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced. In fire conditions decomposition products includes copper oxides and copper fumes.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Symptoms of exposure:

Acute toxicity:

Oral: Harmful if large amounts are swallowed. This is probably due to the conversion of the swallowed metal to its irritating salts. Adverse symptoms may include abdominal pain, cramps, nausea and vomiting which typically occur shortly after ingestion and are not persistent. May cause additional effects as listed under "Inhalation".

Dermal: Brief exposure does not represent hazard.

Inhalation: Dust or fume from metallizing, welding or similar processes can cause upper respiratory tract irritation and/or metal fume fever which is characterized by flu-like symptoms with metallic or sweet taste, fever, chills, coughing, sneezing, thoracic pain, runny nose, weakness, headache, chest and muscle pain and increased white blood cell count. Attacks usually begin after 4-8 hours of exposure and last only 24-48 hours. Inhalation of fumes has been reported to sometimes cause discoloration of the skin and hair.

Skin corrosion / irritation:

Contact with fine size particles may cause mechanical irritation, drying of the skin, dermatitis and discoloration.

Serious eye damage / eye irritation:

High airborne concentrations of metal dust may cause mechanical irritation of the eyes (abrasion of the cornea). Adverse symptoms may include tearing and redness.

Specific target organ toxicity, single exposure:

May cause respiratory irritation.

Aspiration hazard: Not an aspiration hazard.

Chronic toxicity:

Respiratory and Skin Sensitizer:

Copper may cause skin sensitization.

Germ cell mutagenicity:

No data available.

Carcinogenicity:

This product is not known or reported to be carcinogenic by IARC, NTP, EPA, OSHA, ACGIH.

Reproductive toxicity:

This product contains components that are reported to cause reproductive issues, however the available information is not sufficient for classification.

Specific target organ toxicity, repeated exposure:

Kidney, liver, blood, lungs/respiratory system, skin and eyes.

Medical conditions aggravated by overexposure:

Kidney, liver, blood, lungs/respiratory system, skin, eye (Wilson's disease) disorders, if product is handled without adequate protection. Workers with anemia, kidney damage, digestive, respiratory, nervous system, pregnant women and fertile females require particular attention.

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

Components	Test Results
Copper, CAS #: 7440-50-8	<p>Very-high doses of copper can cause damage to liver and kidneys, and can even cause death. Elevated temperature processing such as welding and plasma arc cutting may release hazardous fumes. Overexposure to metal fumes may cause pulmonary edema (fluid in the lungs) and methemoglobinemia. Repeated or prolonged skin contact may cause allergic skin reactions with susceptible persons. If allergy develops, very low future exposure can cause itching and skin rash. Repeated or prolonged exposure may lead to greenish discoloration of the skin, hair and teeth. The following effects are observed in workers exposed to copper dust in grinding and sieving operations:</p> <p>Oral: 111-434 mg Cu/m³ over a 3-year period: anorexia, nausea and occasional diarrhea.</p> <p>Inhalation:</p> <p>Hematological Effects: 0.64–1.05 mg Cu/m³: decreased hemoglobin and erythrocyte levels.</p> <p>Hepatic Effects: 111-434 mg Cu/m³: enlarged liver.</p> <p>Endocrine Effects: 111-434 mg Cu/m³: adenoma accompanied by obesity, arterial hypertension, and "red faces" observed in seven workers in a group of 100 workers.</p> <p>Neurological Effects: 111–434 mg Cu/m³: headache, vertigo and drowsiness.</p> <p>Other Systemic Effects: a few studies have reported metal fume fever, a 24–48 hours illness characterized by chills, fever, aching muscles, dryness in the mouth and throat, and headache, in workers exposed to copper dust or fumes airborne copper dust concentrations of 0.075–0.12 mg/m³. It has been suggested that other metals present in the workplace may have been the causative agent for the metal fume fever, rather than copper. This is supported by the small number of reports of metal fume fever despite the extensive use of copper in many industries.</p> <p>Reproductive Effects: 111–434 mg Cu/m³: Impotence reported in 16% of workers (75–100 workers examined). Not known if copper can cause birth defects or other developmental effects in humans. Studies in animals suggest that ingestion of high levels of copper may cause a decrease in fetal growth.</p> <p>Cardiovascular Effects: Several human studies have examined the possible relationship between increased serum copper levels and an increased risk of coronary heart disease. Although a number of studies have found increased risk of coronary heart disease deaths with increasing serum copper levels a number of studies have not found a relationship.</p>
Zinc, CAS #: 7440-66-6	<p><u>Acute Toxicity:</u> anemia, changes in cholesterol levels.</p> <p>Oral: Ingestion of large doses even for a short time can cause stomach cramps, nausea and vomiting.</p> <p>Dermal: No data available.</p> <p>Inhalation: May cause respiratory tract irritation with symptoms of coughing and wheezing. Inhalation of dusts and fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.</p> <p>Skin corrosion/irritation (Rabbit): May cause skin irritation.</p> <p>Serious eye damage/eye irritation (Rabbit): May cause eye irritation.</p> <p>STOT, SE: May cause respiratory irritation.</p> <p>Aspiration hazard: No.</p> <p><u>Chronic toxicity:</u></p> <p>Sensitization, skin and respiratory: not classified.</p> <p>Germ cell mutagenicity: No data available.</p> <p>Carcinogenicity: Based on incomplete information from human and animal studies, the EPA has determined that zinc is not classifiable as to its human carcinogenicity. Animal studies have found decreased weight in the offspring of animals that ingested very high amounts of zinc. Not known if excess zinc can cause developmental effects in humans.</p> <p>Reproductive toxicity: Rats that were fed large amounts of zinc became infertile. Not known if high levels of zinc affect reproduction in humans.</p> <p>STOT, RE: Repeated inhalation may cause chronic bronchitis. Prolonged and repeated contact can cause dermatitis with drying and cracking of the skin and redness.</p>

SECTION 12 – ECOLOGICAL INFORMATION

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

Persistence and degradability: Not readily biodegradable by OECD criteria.

Bioaccumulative potential: Metal powders in water or soil may form metal oxides or other metal compounds that could become bioavailable to aquatic and terrestrial organisms.

Mobility in soil: Metal powder is relatively immobile in soils, but some metal compounds may be transported with ground water.

Other adverse effects: Not known.

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

Components	Test Results
Copper, CAS #: 7440-50-8	<p>Considered to be very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.</p> <p>The toxicity of copper to aquatic organisms varies significantly not only with the species, but also with the physical and chemical characteristics of the water. Copper concentrations varying from 0.1 to 1.0 mg/L have been found by various investigators to be not toxic for most fish. However, concentrations of 0.015 to 3.0 mg/L have been reported as toxic, particularly in soft water to many kinds of fish, crustacea, mollusks, insects, and plankton.</p> <p><u>Acute toxicity</u></p> <p>Fish: (Rainbow Trout), 96hrs: LC50: 0.15 mg/L; LOEC: 0.022 mg/L; LC50: 0.052 mg/L (flow-through); (Fathead minnow), 96hrs: LC50: 0.0068-0.0156 mg/L; LC50:<0.3 mg/L (static); LC50: 0.2 mg/L (flow-through); (Bluegill), 96hrs: LC50: 1.25 mg/L (static); (Common carp), 96hrs: LC50: 0.3mg/L (semi-static); 0.8mg/L (static); (Guppy), 96hrs: LC50: 0.112 mg/L (flow-through);</p> <p>Aquatic invertebrates (Daphnia magna), 48hrs: EC50: 0.04 - 0.05 mg/L; 24hrs: NOEC: 0.004 mg/L</p> <p>Aquatic plants (microalgae), 96hrs: EC50: 0.031-0.054 mg/L (static); 72hrs: EC50: 0.0426-0.0535 mg/L (static);</p> <p><u>Ecological Data:</u></p> <p>Biodegradability: Metal powders may cause ecological damage through silting or sedimentation in water depriving organisms and mobility and polluting of gills, lungs and skin thus limiting oxygen uptake.</p> <p>Bioaccumulation: Metal powders in water or soil may form metal oxides or other metal compounds that could become bioavailable to aquatic and terrestrial organisms.</p> <p>Mobility in Soil: Metal powder is relatively immobile in soils, but some metal compounds may be transported with ground water.</p> <p>Copper released into the environment usually attaches to particles made of organic matter, clay, soil, or sand. Copper compounds can break down and release free copper into the air, water, and foods.</p>




Zinc, CAS #: 7440-66-6	<p>Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. Zinc has been found in at least 985 of the 1,662 National Priority List sites identified by the EPA.</p> <p><u>Acute Toxicity:</u> Fish (carp), 96hrs: LC50: 450 µg/L Aquatic Invertebrates (Daphnia magna), 48hrs: LC50: 0.068 mg/L</p> <p><u>Chronic toxicity:</u> Aquatic invertebrates (Daphnia magna), 7days: NOEC: 0.101 - 0.140 mg/L</p> <p><u>Ecological data:</u> Persistence and degradability: The methods for determining the biological degradability are not applicable to inorganic substances. Bioaccumulative potential: (Algae), 7days at 16°C: 5 µg/L; Bioconcentration factor (BCF): 466 Mobility in soil: When enters the environment, Zinc attaches to soil, sediments and dust particles in the air. Rain and snow remove zinc dust particles from the air. Depending on the type of soil, some zinc compounds can move into the groundwater and into lakes and rivers. Most of the zinc in soil stays bound to soil particles and does not dissolve in water. It builds up in fish and other organisms, but it does not build up in plants.</p>
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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. Containers should be completely emptied 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 3089	UN 3089	UN 3089
UN proper shipping name:	Metal Powder, Flammable, n.o.s. (Copper/Zinc Alloy Flake)	Metal Powder, Flammable, n.o.s. (Copper/Zinc Alloy Flake)	Metal Powder, Flammable, n.o.s. (Copper/Zinc Alloy Flake)
Transport hazard class(es):	4.1	4.1	4.1
Packing group:	II	II	II
Hazard Labels			
Special precautions:	<p>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 173.151. Special Provisions: IB8, IP2, IP4, T3, TP33 Exceptions: 151; Non bulk: 212 / Bulk: 240 / Passenger aircraft rail: 15kg / Cargo aircraft only: 50kg / Location: B</p> <p>Environmental Hazard: Yes; Copper metal powder: severe marine pollutant Required by US DOT to be identified as marine pollutant.</p>		

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):

Not subject to the reporting.

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

Not subject to the reporting.

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

Acute Health Hazard, Chronic Health Hazard, Fire Hazard

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

The following require reporting:

- o Copper, CAS #: 7440-50-8: in product: 70-90% De Minimis: 1.0%
- o Zinc (fume or dust), CAS #: 7440-66-6: in product: 10-30% De Minimis: 1.0%

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

The following require reporting if a criterion of reportable quantity is fulfilled:

- o Copper, CAS #: 7440-50-8: RQ: 5,000 lbs
- o Zinc (fume or dust), CAS #: 7440-66-6: 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®
		mppcf	mg/m ³	(as of 4/26/13) 8hrs TWA, mg/m ³	(as of 4/26/13) Up to 10hrs TWA, mg/m ³	8hrs TWA, mg/m ³
Copper, CAS #: 7440-50-8	Fume (as Cu)	-	0.1	0.1	0.1	0.2
	Dusts and mists (as Cu)	-	1	1	1	1
Inert or Nuisance Dust	Total dust	50	15	10 (as PNOR)	See Appendix D	10
	Respirable fraction	15	5	5 (as PNOR)	See Appendix D	3

mppcf – millions of particles per cubic foot; Appendix D refers to Appendixes of Hazardous Air Pollutants List, Section 112(b) of Clean Air Act

NIOSH IDLH: Copper (Fume, dusts, and mists (as Cu)), CAS #: 7440-50-8: 100 mg/m³

Clean Water Act:

- Section 307(a)(1) (Toxic pollutants):
 - Copper and compounds
(Water quality criteria (Cu) EPA 1999: Fresh water: CMC: 13.0 µg/L; CCC: 9.0 µg/L / Salt water: CMC: 4.8 µg/L; CCC: 3.1 µg/L)
 - Zinc and compounds
- Section 311(b)(2): Table 116.4A (Hazardous chemicals) / Table 117.3 (RQ): No components are listed.

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

HMIS rating: Health: 2* Flammability: 2 Physical hazard: 2

State Regulations:

California Prop. 65 Components:

This product does not contain components known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

International Regulations/Inventories:

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

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
HEPA	High Efficiency Particulate Air
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
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
TQ	Threshold Quantity
TPQ	Threshold Planning Quantity
EHS	Extremely Hazardous Substances
DSL	Domestic Substance List
WHMIS	Workplace Hazardous Materials Information System

Latest revision date: April 6, 2016 – Preparation of SDS in accordance to the GHS requirements

Date of the previous revision: Not available.

Disclaimer: The data set forth in this sheet are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Rhino Linings Corporation makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereof.