

PRODUCT NAME(S): Metal Fusion Pigment - Sterling

SECTION 1 – IDENTIFICATION

Manufacturer's Info: **Product name:** Metal Fusion Pigment - Sterling
Rhino Linings Corporation
 9747 Businesspark Avenue
 San Diego, CA, 92131
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 07



GHS 09



GHS 02

Classification of the substance or mixture:

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Skin corrosion / irritation	2	H315	Causes skin irritation
Serious eye damage / Eye irritation	2A	H319	Causes serious eye irritation
Specific target organ toxicity, single exposure	3	H335	May cause respiratory irritation
Specific target organ toxicity, repeated exposure	2	H373	May cause skeletal system and brain damage through prolonged or repeated exposure
Aquatic Hazard, Acute	1	H400	Very toxic to aquatic life
Aquatic Hazard, Chronic	1	H410	Very toxic to aquatic life with long lasting effects
Flammable solids	2	H228	Flammable solid
Substances and mixture which, in contact with water, emit flammable gases	2	H261	In contact with water releases flammable gas

Precautionary Statements:

Prevention:	P260 P271 P280 P264 P210 P240 P241 P233	Do not breathe dusts or 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. Keep away from heat/sparks/open flames/hot surfaces.- No smoking. Ground/bond container and receiving equipment. Use explosion proof electrical, ventilating, lighting equipment. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
	P231 + P232 P273	Handle under inert gas. Protect from moisture. Avoid release to the environment.
Response:	P302 + P352 P362 P332 + P313 P305 + P351 + P338 P337 + P313 P304 + P340 + P312 P314 P335 + P334 P370 + P378 P391	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation 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 doctor/ physician if you feel unwell. Get medical advice/attention if you feel unwell. Brush off loose particles from skin and immerse in cool water/wrap in wet bandages. In case of fire use dry powder for extinction. Collect Spillage.
Storage:	P402 + P404	Store in a dry place. Store in a closed container.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal: P501 Dispose of contents/container to hazardous or special waste collection point in accordance with local/regional/national/international regulations.

Hazards not otherwise classified: See Section 11.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EC #	Concentration, %
Aluminum	7429-90-5	231-072-3	97 – 99.8
Stearic Acid	57-11-4	200-313-4	0.5 – 3

SECTION 4 – FIRST-AID MEASURES

Description of First Aid Measures:

Inhalation: Move to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory problems, seek medical attention. If necessary, give artificial respiration; if breathing is difficult, give oxygen. Call a POISON CENTER or doctor/ physician if you feel unwell.

Skin: Wash material off of the skin with plenty of soap and water. Remove contaminated clothing and shoes and wash them before reuse. Get medical advice/attention if irritation develops.

Eye: Immediately rinse 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 corneal injury. If eye irritation persists: Get medical advice/ attention.

Ingestion: Move to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any. Rinse mouth thoroughly with water and then drink 60 to 240 mL (2 to 8 oz). 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. Get medical advice/attention if large quantities are ingested.

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. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Recommended medical monitoring for at least 24hours.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Smother with suitable dry powder for extinction. Pressure from this media may cause severe dusting.
Unsuitable extinguishing media: Do not use water and halogenated extinguishing media.

Specific hazards arising from the chemical: Highly flammable in presence of open flames and sparks. Flammable in presence of heat. May cause explosion. Hazardous combustion products: aluminum oxides and other toxic vapors.

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. Keep away from ignition sources and protect from heat. Ensure adequate ventilation/exhaust extraction. Avoid breathing dust 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, 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: Avoid dust generation. Do not flush with water or aqueous cleansing agents. 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. Dust may form flammable or explosive mixture with air, especially when damp. Keep away from excessive heat, sparks, flame and other ignition sources. Use adequate explosion proof 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. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas.

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 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 for details), 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 and all ignition sources.

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 ventilation and wet methods 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 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.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver-white powder
Odor:	Odorless
Odor threshold:	Not applicable
pH:	7 – 11 (4% water)
Melting point/ freezing point:	660°C (1,220°F)
Initial boiling point and boiling range:	2,327°C (4,221°F)
Flash point:	Not applicable
Evaporation rate:	Not applicable
Flammability (solid, gas):	Not applicable
Upper/ lower flammability or explosive limits:	Not applicable
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Relative density:	2.7
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: Corrodes in contact with acids and other metals. Ignition may occur if powders are mixed with halogens, carbon disulfide or methyl chloride. Reacts violently and explosively with moist air and water steam.

Chemical stability: Stable under recommended storage conditions. Product is hygroscopic; contamination with moisture may cause ignition or explosion.

Conditions to avoid: Unintentional contact with moisture, high humidity, generation of dust, sparks, open flames, excessive heat.

Incompatible materials: Moisture, strong oxidizing agents; strong acids and bases; halogens, alcohols, carbon disulfide, methyl chloride.

Hazardous decomposition products: Aluminum and carbon oxides, other toxic products.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Symptoms of exposure:

Acute toxicity:

Oral: It may be harmful if large amounts are swallowed. Effects are similar to those listed under inhalation.

Dermal: Brief exposure does not represent hazard.

Inhalation: Dust 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, muscle pain and anemia. Attacks usually begin after 4-8 hours of exposure and last only 24-48 hours.

Skin corrosion / irritation:

Contact with dust may cause mechanical irritation.

Serious eye damage / eye irritation:

May cause eye irritation.

Specific target organ toxicity, single exposure:

May cause respiratory irritation after single exposure.

Aspiration hazard: Not an aspiration hazard.

Chronic toxicity:

Respiratory and Skin Sensitizer:

Not reported to be a respiratory or skin sensitizer.

Germ cell mutagenicity:

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

Carcinogenicity:

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

Reproductive toxicity:

None of components is classified as reproductive toxicant. However, Aluminum is reported to cause developmental issues in laboratory animals.

Specific target organ toxicity, repeated exposure:

Skeletal system, brain.

Medical conditions aggravated by overexposure:

Skeletal system and brain disorders, if product is handled without adequate protection.

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

Components	Test Results
Aluminum, CAS #: 7429-90-5	<p>Acute toxicity: Oral and Inhalation: not considered hazard; however, large amounts may cause metal fever. STOT, SE: Inhalation of dust may cause respiratory irritation. Skin Irritation (Rabbit), 24hrs: May cause mechanical skin irritation. Eye Irritation (Rabbit): May cause mechanical eye irritation.</p> <p>Chronic toxicity: STOT, RE: Aluminum accumulates in the kidneys, brain, lungs, liver and thyroid where it competes with calcium for absorption and can affect skeletal mineralization. In infants, this can slow growth. The kidney disease causes less aluminum to be removed from the body in the urine. In some cases, the excess aluminum causes bone or brain diseases (Alzheimer's and Parkinson). Animal models have linked aluminum exposure to mental impairments. Reproductive toxicity: Birth defects have not been seen in animals, however very young animals appeared weaker, less active and less coordinated when their mothers were exposed to large amounts of aluminum during pregnancy and while nursing. In addition, aluminum also affected the animal's memory. These effects are similar to those that have been seen in adults. It does not appear that young animals are more sensitive than adults. Not known if aluminum will cause birth defects in people.</p>
Stearic Acid, CAS #: 57-11-4	<p>Acute Toxicity: Oral LD50 (Rat): 4,640 mg/kg Dermal LD50 (Rat): >5,000 mg/kg Inhalation LC50: No data available. Skin corrosion/irritation (Rabbit): Irritating to the skin. Serious eye damage/eye irritation (Rabbit): Irritating to the eyes.</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: Under certain conditions, metal powders may form metal oxides or other metal compounds in water or soil 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 mixture. Results for components, where available:




Components	Test Results
Aluminum, CAS #: 7429-90-5	<p>Very toxic to aquatic life with long lasting effects.</p> <p><u>Acute toxicity:</u> Fish (Rainbow trout), 96hrs: LC50: 0.12 mg/L (static) Fish (Grass carp), 96hrs: mortality LOEC: 0.1 mg/L Aquatic invertebrates (Daphnia magna), 24hrs: EC50: 2.6 mg/L</p> <p><u>Ecological data:</u> Persistence and degradability: Persistent. 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. Bioaccumulative potential: (Brook trout), 56 days: 268 µg/L; Bioconcentration factor (BCF): 36; 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. Aluminum released into the environment usually attaches to particles made of organic matter, clay, soil, or sand.</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. 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 1309	UN 1309	UN 1309
UN proper shipping name:	Aluminum powder, coated	Aluminum powder, coated	Aluminum powder, coated
Transport hazard class(es):	4.1	4.1	4.1
Packing group:	II	II	II
Hazard Labels			
Special precautions:	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: A		

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, Fire Hazard, Reactive Hazard

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

The following require reporting:

- Aluminum, CAS #: 7429-90-5: in Product: 97 – 99.8% De Minimis: 1.0%

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

No components are subject to the reporting.

Clean Air Act:

- Ozone Depleting Substances (ODS): This product does not contain and is not manufactured with ozone depleting substances.
- Hazardous Air Pollutants, OSHA, Section 112(b), Table Z-1 and Table Z-3:

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
Aluminum metal (as Al), CAS #: 7429-90-5	Total dust	-	15	10	10	-
	Respirable fraction	-	5	5	5	1
Inert or Nuisance Dust	Total dust	50	15	10 (as PNOR)	See Appendix D	See TLV book Appendix B
	Respirable fraction	15	5	5 (as PNOR)		
Particulates Not Otherwise Regulated (PNOR)	Total dust	-	15	10	See Appendix D	See TLV book Appendix B
	Respirable fraction	-	5	5		

mppcf – millions of particles per cubic foot; (C) - Ceiling; Ca – Potential occupational carcinogens; Appendix A, C and D refers to Appendixes of HAP, Section 112(b) of Clean Air Act

Clean Water Act:

- Section 307(a)(1) (Toxic pollutants): No components are listed.
- Section 311(b)(2): Table 116.4A (Hazardous chemicals) / Table 117.3 (RQ): No components are listed.

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

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

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 11, 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.