

PRODUCT NAME(S): Quartz Granules
SECTION 1 – IDENTIFICATION

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

Product name: Quartz Granules

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

Classification of the substance or mixture:

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Skin corrosion / irritation	3	H316	Causes mild skin irritation
Serious eye damage / Eye irritation	2B	H320	Causes eye irritation
Carcinogenicity	1A	H350	May cause cancer by inhalation
Specific target organ toxicity, single exposure	3	H335	May cause respiratory irritation
Specific target organ toxicity, repeated exposure	1	H372	Causes damage to lungs/respiratory system, kidney, liver, ureter and bladder through prolonged or repeated exposure by inhalation.

Precautionary Statements:

Prevention:	P201 P202 P281 P260 P270 P264 P271	Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust. Do not eat, drink, and smoke when using this product. Wash exposed area with plenty of water and soap thoroughly after handling. Use only outdoors or in a well-ventilated area.
Response:	P332 + P313 P305 + P351 + P338 P337 + P313 P304 + P340 + P312 P314 P308 + P313	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. IF exposed or concerned: Get medical advice/attention.
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: Smoking in combination with silica exposures increases the risk of cancer.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EC #	Concentration, %
Crystalline Silica (Quartz)	14808-60-7	238-878-4	95 – 97
Proprietary Resins	Trade Secret	Trade Secret	< 1
Titanium Dioxide	13463-67-7	236-675-5	< 1

Released: March 22, 2016

Iron Oxide Red	1309-37-1	215-168-2	< 1
Other Pigment(s)	Not available	Not available	< 1

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. Seek medical help if coughing or other symptoms persist. 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. 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: Heavy exposure to the product requires prompt attention. Quickly and gently brush away excess product. 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.

Eye: Immediately flush eyes cautiously 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. If eye irritation persists consult 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. 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: Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media: Do not use water jet and halogenated compounds.

Specific hazards arising from the chemical: This product is non-flammable and non-combustible. No specific fire or explosion hazard. Remove containers from fire area if this can be done without risk. Hazardous combustion products: carbon dioxide, carbon monoxide, silica oxides, sulfur oxides, metal oxides.

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. Fight fire with normal precautions from a reasonable distance. 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 and unprotected personnel from entering. Do not touch or walk through spilled material. Ensure adequate ventilation/exhaust extraction. Avoid breathing dust during clean 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 and do not use compressed air to clean spills.

For smaller spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended).

For larger spills, use control dust measures and carefully scoop or shovel into clean, dry container. Seal the container, and reuse or 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. Respirable crystalline silica dust may be in the air without a visible dust cloud. Use adequate ventilation and/or dust collection methods to keep airborne levels below the exposure limits. Maintain and test ventilation and dust collection equipment. Use all available work practices to control dust exposures, such as water sprays. Do not permit dust to collect on walls, floors, sills, ledges, machinery, or equipment. Avoid breakage of bagged material or spills of bulk material. 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 in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10 for details) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed. Store bags to avoid accidental tearing, breaking, or bursting. Avoid windblown dust by shielding or covering outdoor stockpiles. Protect chemical from atmospheric moisture.

Storage stability: Stable under normal conditions.

Storage temperature: 60 - 100°F (16 – 38°C)

Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200. Employees and consumers should be warned of health risks associated with product use. See Section 8 for additional information on hygiene measures.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters/Occupational exposure limit values: Not available for mixture. Results for components are listed in Section 15.

Appropriate engineering controls: 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, abrasion-resistant gloves should be worn always when working with this product. Do not rely on barrier creams in place of impervious gloves. Do not get product inside gloves.

Body should be covered with long-sleeved and long-legged clothing to protect the skin from direct contact with the product. Protective clothing should be selected and used in accordance with “Guidelines for the Selection of Chemical Protective Clothing” published by ACGIH based on the task being performed and the risks involved.

To reduce foot and ankle exposure, wear protective footwear that is high enough to prevent the product from getting inside.

Remove clothing and protective equipment that becomes saturated with the product and wash exposed areas of the body.

Wash contaminated clothing before reuse. Store work clothing separately.

Respiratory protection:

Use local or general ventilation to control exposures below applicable exposure limits.

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.

The table below can assist in selecting respirators that will reduce personal exposures to below the OSHA PEL. It is part of the NIOSH Respirator Selection Logic, 2004, Chapter III, Table 1, “Particulate Respirators”. The full document can be found at www.cdc.gov/niosh/nppt/topics/respirators; the user of this SDS is directed to that site for information concerning respirator selection and use.

The assigned protection factor (APF) is the minimum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, so that if the workplace concentration of a particulate was 150 ug/m³, then a respirator with an APF of 10 should reduce the concentration of particulate to 15 ug/m³.

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.

APF 1	Type of Respirator (Use only NIOSH-certified respirators)
10	Any air-purifying elastomeric half-mask respirator equipped with appropriate type of particulate filter. ² Appropriate filtering facepiece respirator. ^{2,3} Any air-purifying full facepiece respirator equipped with appropriate type of particulate filter. ² Any negative pressure (demand) supplied-air respirator equipped with a half-mask.
25	Any powered air-purifying respirator equipped with a hood or helmet and a high efficiency (HEPA) filter.

	Any continuous flow supplied-air respirator equipped with a hood or helmet.
50	Any air-purifying full facepiece respirator equipped with N-100, R-100, or P-100 filter(s). Any powered air-purifying respirator equipped with a tight-fitting facepiece (half or full facepiece) and a high-efficiency filter. Any negative pressure (demand) supplied-air respirator equipped with a full facepiece. Any continuous flow supplied-air respirator equipped with a tight-fitting facepiece (half or full facepiece). Any negative pressure (demand) self-contained respirator equipped with a full facepiece.
1,000	Any pressure-demand supplied-air respirator equipped with a half-mask.
¹ . The protection offered by a given respirator is contingent upon (1) the respirator user adhering to complete program requirements (such as the ones required by OSHA in 29CFR1910.134), (2) the use of NIOSH-certified respirators in their approved configuration, and (3) individual fit testing to rule out those respirators that cannot achieve a good fit on individual workers. ² . Appropriate means that the filter medium will provide protection against the particulate in question. ³ . An APF of 10 can only be achieved if the respirator is qualitatively or quantitatively fit tested on individual workers.	

Additional Protective Measures: Participate in training, exposure monitoring, and health surveillance programs to monitor any potential adverse health effects that may be caused by breathing respirable crystalline silica. 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. Use administrative controls such job rotation to supplement engineering controls. Periodically wash areas with a pH neutral soap and clean, uncontaminated water.

The OSHA Hazard Communication Standard, 29 CFR Sections 1910.1200, 1915.1200, 1917.28, 1918.90, 1926.59 and 1928.21, and state and local worker or community "right-to-know" laws and regulations should be strictly followed.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Various color granules
Odor:	Odorless
Odor threshold:	Not applicable
pH:	Not available for mixture; Silica: 6-8
Melting point/ freezing point:	2,930°F
Initial boiling point and boiling range:	4,046°F
Flash point:	Not applicable. Not flammable. Not combustible.
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:	2.65
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. Corrosive effects to metal are anticipated. Based on its structural properties the product is not classified as oxidizing.

Chemical stability: Stable under recommended storage conditions.

Conditions to avoid: Unintentional contact with moisture, high humidity, generation of dust.

Incompatible materials: Strong oxidizing agents.

- Silica reacts violently with powerful oxidizing agents such as hydrofluoric acid, fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, oxygen difluoride, hydrogen peroxide, acetylene, ammonia yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas silicon tetrafluoride.

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 carbon dioxide, carbon monoxide, silica oxides, sulfur oxides, metal oxides.

SECTION 11 – TOXICOLOGICAL INFORMATION

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

Symptoms of exposure:

Acute toxicity:

Oral: May cause gastrointestinal discomfort.

Dermal: Not expected.

Inhalation: May cause respiratory tract irritation, shortness of breath, coughing and reduced pulmonary function.

Skin corrosion / irritation:

May cause mild skin irritation, dryness and dermatitis. A more severe response may be expected if skin is abraded (scratched or cut).

Serious eye damage / eye irritation:

May cause eye irritation. Adverse symptoms may include tearing, redness and pain. Dust may cause abrasion of the cornea.

Specific target organ toxicity, single exposure:

This product contains components that are causing respiratory tract irritation after single exposure.

- Crystalline Silica (Quartz), CAS #: 14808-60-7
- Iron Oxide Red, CAS #: 1309-37-1

Aspiration hazard: Not an aspiration hazard.

Chronic toxicity:
Respiratory and Skin Sensitizer:

This product contains trace amounts of chemical (impurity) that is reported to be a skin sensitizer; however the available information is not sufficient for classification.

Germ cell mutagenicity:

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

Carcinogenicity:

This product contains components/impurities reported to be carcinogenic to humans.

- Crystalline Silica, CAS #: 14808-60-7:
 - IARC: Group 1 (Carcinogenic to humans)
 - NTP: Known to be a Human Carcinogen (Respirable size)
 - ACGIH: Group A2 (Suspected Human Carcinogen)
 - NIOSH: Potential occupational carcinogen
- Titanium dioxide, CAS #: 13463-67-7:
 - IARC: Group 2B (Possibly Carcinogenic to Humans)
 - ACGIH: Not classifiable as human carcinogen

Reproductive toxicity:

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

Specific target organ toxicity, repeated exposure:

Lungs/respiratory system, kidney, liver, ureter, bladder, cardiovascular system, skin.

Hazards by inhalation associated with Crystalline Silica, respirable dust particles <10µ in diameter:

- Silicosis: The prolonged and repeated inhalation of silica dust can cause silicosis, a fibrosis (scarring) of the lungs. Silicosis can exist in several forms: chronic, accelerated, or acute and may lead to disability and death.
- Lung Cancer: Workers with silicosis who smoke are at the greatest risk. Preventing the onset of silicosis will reduce the cancer risk.
- Tuberculosis: If exposed to tuberculosis bacteria, individuals with chronic silicosis are at three time higher risk to develop pulmonary tuberculosis.
- Non-Malignant Respiratory Diseases: Increased incidence of chronic bronchitis, emphysema and small airways disease.
- Autoimmune and Chronic Kidney Diseases: Several studies have reported excess cases of several autoimmune disorders (scleroderma, systemic lupus, rheumatoid arthritis) and kidney diseases (including end stage renal disease) among silica-exposed workers.

Medical conditions aggravated by overexposure:

Lungs/respiratory system (asthma, bronchitis, emphysema, chronic obstructive pulmonary disease), kidney, liver, bladder, cardiovascular system and skin diseases/disorders if product is handled without adequate protection.

If sensitized, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

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

Components	Test Results
Crystalline Silica (Quartz), CAS #: 14808-60-7	<u>Acute Toxicity</u> Skin corrosion/irritation: not irritating Serious eye damage/eye irritation: can cause moderate eye irritation and may cause abrasion to the cornea. <u>Chronic Toxicity</u> Carcinogenicity: Contains respirable crystalline silica which is classified as a known human carcinogen. STOT, RE: Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. The chronic health risks are associated with respirable particles of 3-4 µm over protracted periods of time. For routine exposure and for individuals with existing respiratory illness (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) symptoms include shortness of breath, wheezing, cough, sputum production, weight loss, fever. Noted are also effects on liver based on human evidence.
Titanium Dioxide, CAS #: 13463-67-7	<u>Acute toxicity</u> Oral LD50 (Rat): >5,000 mg/kg; a very insoluble compound. The studies in several species, including man, show neither significant absorption nor tissue storage following ingestion of titanium dioxide. Inhalation LC50 (Rat): >6.82 mg/L Skin corrosion/irritation (Rabbit): Slight or no skin irritation. Not dermally absorbed by humans. Serious eye damage/eye irritation (Rabbit): Slight or no eye irritation. <u>Chronic Toxicity</u> Sensitization (Mouse): Not sensitizing on laboratory animals. Germ cell mutagenicity: Non genotoxic. Carcinogenicity: IARC: Group 2B: Possibly carcinogenic to humans; No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP, ACGIH and OSHA.

	<p>Titanium dioxide is a frequently used compound in lung clearance studies, where a biologically inert substance is required, however inhalation of high concentrations of fine or ultrafine titanium dioxide particles has been shown to result in pulmonary inflammation, fibrosis, and lung tumors in rats. The same inhalation effects were not observed in mice and hamsters and may be a rat-specific threshold phenomenon, dependent upon lung overloading at high exposure concentrations and possibly of little relevance to humans. Epidemiological data suggest that there is no carcinogenic effect associated with workplace exposure to titanium dioxide dust.</p> <p>STOT, RE: Inhalation: Lung fibrosis; potential occupational carcinogen.</p>
Iron Oxide Red, CAS #: 1309-37-1	<p><u>Acute Toxicity</u> Ingestion: May cause severe and permanent damage to the digestive tract, liver damage, hemorrhaging of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea and shock. The toxicological properties of this substance have not been fully investigated. Inhalation: Dust is irritating to the respiratory tract. Inhalation of 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. (Rat), 12hrs: LPTC: 50 mg/m³; Behavioral: Excitement, Fluid intake, diarrhea (Rat), 12hrs: LPTC: 0.8 mg/kg; Lung, Thorax, or Respiration: Emphysema; Enzyme inhibition, induction, or change in blood or tissue levels; Metabolism (intermediary): inflammation Subcutaneous (Dog): LPLD: 30 mg/kg. Skin corrosion/irritation: Causes skin irritation. Serious eye damage/eye irritation: Causes serious eye irritation. STOT, SE: May cause respiratory irritation.</p> <p><u>Chronic toxicity</u> Carcinogenicity: IARC: Animal: No evidence; Human: Group 3 (Not Classifiable as to its Carcinogenicity to Humans) STOT, RE: Inhalation: Chronic inhalation may cause effects similar to those of acute inhalation. (Rat), 24hrs/61days, continuous: LPTC: 500 µg/m³; Other degenerative changes; Changes in blood serum composition (e.g. TP, bilirubin, cholesterol); Enzyme inhibition, induction, or change in blood or tissue levels: True cholinesterase; Inhalation (Rat), 24hrs/60days, continuous: LPTC: 0.5 mg/m³; Changes in circulation; Liver changes; Vascular(blood flow); * LPTC=lowest published toxic concentration; LPLD=lowest published lethal dose Repeated and prolonged exposures to iron oxide dust may cause a benign pneumoconiosis called siderosis. On X-rays it appears to be a benign pneumoconiosis and is not associated with pulmonary fibrosis or disability unless there is concurrent exposure to other fibrosis producing materials such as silica. The TLV is set to protect against siderosis. Workers should follow the recommended safety measures.</p>

SECTION 12 – ECOLOGICAL INFORMATION

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

Persistence and degradability: Not readily biodegradable by OECD criteria.

Bioaccumulative potential: No significant accumulation in organisms is expected.

Mobility in soil: Not expected.

Other adverse effects: Not known.

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

Components	Test Results
Crystalline Silica (Quartz), CAS #: 14808-60-7	Not known to be ecotoxic; no data suggests that is toxic to birds, fish, invertebrates, microorganisms or plants.
Titanium Dioxide, CAS #: 13463-67-7	<p><u>Aquatic toxicity:</u> Fish LC0 (orfe, freshwater fish), 48h: >1,000 mg/L.</p> <p><u>Ecological Data:</u> Persistence and degradability: Methods for the determination of biodegradability are not applicable to inorganic substances. Bioaccumulative potential: The product is practically insoluble in water and not biodegradable. Mobility in soil: No data available. PBT and vPvB assessment is not required for inorganic substances. Titanium dioxide is a stable compound that is insoluble in water and therefore would not be expected to be present in drinking water. Based on the lack of absorption as well as no identified toxicological effects of concern in animal testing, there are also no risk concerns for non-target terrestrial organisms resulting from the use of titanium dioxide as an inert ingredient.</p>

SECTION 13 – DISPOSAL CONSIDERATIONS

Product Disposal: The generation of waste should be avoided or minimized wherever possible. Salvage spilled granules where possible. Uncontaminated granules may be reused. 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: Dispose in accordance with government regulation.

SECTION 14 – TRANSPORT INFORMATION

Land transport, U.S. DOT: Non-regulated
Sea transport, IMDG: Non-regulated
Air transport, IATA/ICAO: Non-regulated

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

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

No components or impurities of this product are present above De Minimis level and therefore do not require reporting.

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
Crystalline Silica (Quartz), CAS #: 14808-60-7	Total dust	-	30 : (%SiO ₂ +2)	0.3	-	-
	Respirable fraction	250 : (%SiO ₂ +5)	10 : (%SiO ₂ +2)	0.1	0.05; Ca See Appendix A	0.025 (for α-quartz & cristobalite)
Titanium Dioxide, CAS #: 13463-67-7		-	15	10 (as PNOR)	2.4 mg/m ³ (fine) 0.3 mg/m ³ (ultrafine), Ca See Appendix A and C	10
Iron Oxide, CAS #: 1309-37-1		-	10 (fume)	5 (fume)	5 (dust and fume)	5 (resp.)
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 Hazardous Air Pollutants List, Section 112(b) of Clean Air Act

 NIOSH IDLH: Crystalline Silica (Quartz), CAS #: 14808-60-7: Respirable fraction: 50 mg/m³
Clean Water Act:

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

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

HMIS rating: Health: 2 Flammability: 0 Physical hazard: 0

State Regulations:

California Prop. 65 Components:

This product contains chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Crystalline Silica (airborne, unbound particles of respirable size), CAS #: 14808-60-7

- causes cancer; Date listed: October 1, 1988

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Titanium dioxide (airborne, unbound particles of respirable size), CAS #: 13463-67-7

- causes cancer; Date listed: September 2, 2011

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

International Regulations/Inventories:

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

WHMIS Classification (Controlled Products Regulations): Class D2B: Material causing other toxic effects

WHMIS Label Information:


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



Rhino Linings®

SAFETY DATA SHEET

Part No.: 20258, 20259, 20262, 20264, 20266, 20267

Released: March 22, 2016

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
DSL	Domestic Substance List
WHMIS	Workplace Hazardous Materials Information System

Latest revision date: March 22, 2016 – Preparation of SDS in accordance to the GHS requirements

Date of the previous revision: Not available

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