## 1 PRODUCT AND COMPANY INFORMATION

### Manufacturer

RaynGuard Protective Materials, Inc.
8280 14th Avenue
Sacramento, CA 95826

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**Web:** www.RaynGuard.com

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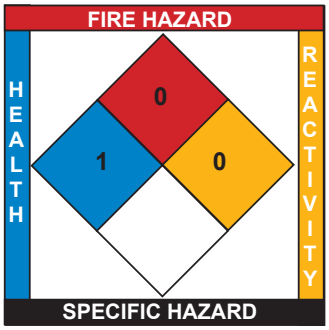
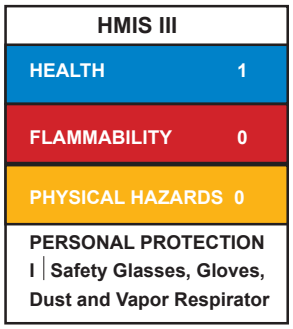
**Product Name:** Steelguard, Steelguard XL, Steelguard 65, Roadguard, and Roadguard XL
**Revision Date:** 5/30/2015
**Version:** 1
**SDS Number: CAS** 324
**Number: Chemical** MIXTURE
**Family: Chemical** Minerals
**Formula:** *** PROPRIETARY ***
**Synonyms:** Mineral Reinforced Inorganic Polymer
**Product Use:** A single package, water dispersed, polymer modified, slate and mineral filled, black, cementious asphalt coating.
**Emergency Phone:** 1-800-424-9300 (CHEMTREC)

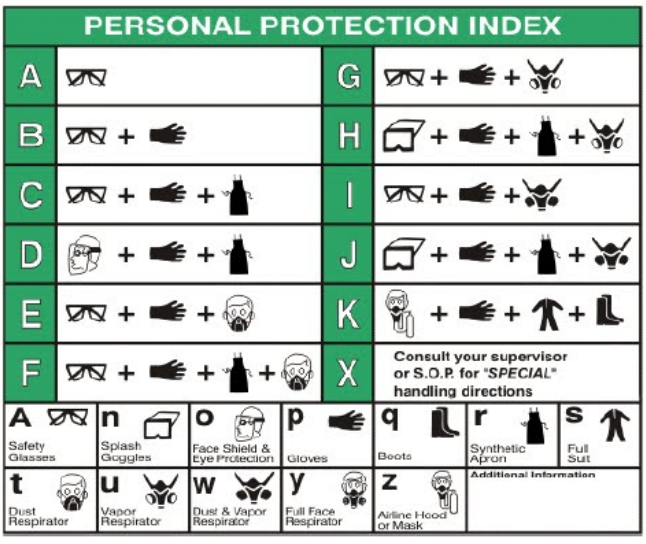
## 2 HAZARDS IDENTIFICATION

NFPA: Health = 1, Fire = 0, Reactivity = 0
HMIS III: H*1/F0/PH0

**NFPA**



**GHS Signal Word: DANGER**

**GHS Hazard Pictograms:**

**GHS Classifications:**
Health, Skin corrosion/irritation, 2
Health, Serious Eye Damage/Eye Irritation, 2 B
Health, Specific target organ toxicity - Single exposure, 3
Health, Carcinogenicity, 2
Health, Specific target organ toxicity - Repeated exposure, 2

**GHS Phrases:**
H315 - Causes skin irritation
H320 - Causes eye irritation
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H373 - May cause damage to organs through prolonged or repeated exposure

**GHS Precautionary Statements:**
P260 - Do not breathe dust.
P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+352 - IF ON SKIN: Wash with soap and water.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: DO NOT RUB. Rinse continuously with water for several minutes.
Remove contact lenses if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention.
P337+313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P501 - Dispose of contents/container to an approved waste disposal plant.

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

**Ingredients:**

| Cas # | Percentage | Chemical Name |
|---|---|---|
| 1317-65-3 | 59-79% | Proprietary, non-hazardous, non-regulated |
| 8052-42-4 | 10-20% | Asphalt |
| 14808-60-7 | 10-20% | Silica, crystalline quartz |
| 1333-86-4 | <1.0% | Carbon black |

## 4 FIRST AID MEASURES

**Inhalation:** Blow nose to remove substance from nasal passages. Give oxygen or artificial respiration if needed. If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention.

**Skin Contact:** Wipe/brush off as much chemical as possible from skin BEFORE flushing skin with water. Promptly flush skin with water for at least 15 minutes to ensure all chemical is removed. If reddening and/or a rash develops and/or persists, obtain medical attention.

**Eye Contact:** Do NOT rub eyes. Flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. If irritation persists, obtain medical attention.

**Ingestion:** No need for first aid is anticipated. If symptoms develop, obtain medical attention. Do NOT induce vomiting unless instructed to do so by medical personnel.

**Most important symptoms and effects, both acute and delayed:**

The most important known symptoms and effects are described in the labelling (see Section 2) and/or Section 11. Prolonged inhalation of Silica, crystalline quartz may result in silicosis. Silicosis is a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs and may be accompanies by 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 may occur. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. Silica, crystalline quartz is classified as Group 1 “Known to be carcinogenic to humans” by the IARC and “Sufficient evidence” of carcinogenicity by the NTP. The chronic health risks are associated with respiring particles of 3-4 microns over protracted periods of time. Currently, there is a limited understanding of the mechanisms of crystalline silica toxicity, including its mechanisms for lung carcinogenicity. Additional studies are needed to determine whether the cell transforming activity of quartz is related to its carcinogenic potential.

**Indication of any immediate medical attention and special treatment needed:**

No data available.

## 5 FIRE FIGHTING MEASURES

**Flammability:** Not flammable
**Flash Point:** DNA
**Flash Point Method:** DNA
**Burning Rate:** No data available
**Autoignition Temp:** No data available
**LEL:** DNA
**UEL:** DNA

**Extinguishing Media:**
Water Spray
Carbon Dioxide
Alcohol-Resistant Foam

**Special Hazards Arising From the Substance or Mixture:**
Oxides of Aluminum, Carbon, Calcium, Magnesium, Nitrogen (NOx), Sodium and Sulfur.
Unburnt hydrocarbon particulate.
Trace quantities of Ammonia, Hydrogen Sulfide, Formaldehyde, and 2-aminoethanol.
Temperatures above 870 °C may cause Tridymite to form.
Temperatures above 1,470 °C may cause Cristobalite to form.

**Advice for Firefighters:**
Firefighters should wear full-face, positive-pressure respirators.

**Further Information:**
If incinerated, may release toxic fumes.
Small quantities of Hydrogen Sulfide may be released upon heating. Use caution.
Exercise care when using water to extinguish fires, as hot asphalt products may produce steam and violent foaming.
See Section 7 for more information on safe handling.
See Section 8 for more information on personal protection equipment.
See Section 13 for disposal information.

## 6 ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**
Use personal protective equipment, including vapor respirator when handling aqueous product and dust respirator when handling dried product.
Avoid dust formation when handling dried product.
Avoid breathing dust when handling dried product.
Keep from contacting skin or eyes.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
**Environmental precautions:**
Prevent further release (leakage/spillage) if safe to do so. Do not allow product to enter drains.
Do not allow to drain to environment.

**Methods and materials for containments and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
If cleaning up dried product, sweep up, shovel or collect spilage with an electrically protected vacuum cleaner.
Pick up and arrange disposal or dried product without creating dust.
Place contaminated material into suitable, closed containers for disposal.
Dispose of contaminated material according to Section 13.
After spillage has been collected, area may be flushed with water or wet-brushed.
Ensure adequate ventilation.

**Reference to other sections:**
Comply with federal, state and local regulations on reporting spills.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on proper disposal.

## 7 HANDLING AND STORAGE

**Handling Precautions:**

Avoid breathing vapors or mist.
Avoid formation of dust when handling dried product.
Avoid breathing dust when handling dried product.
Avoid contact with eyes, skin, or clothing.
Keep containers closed when not in use.
Do not expose containers to open flame or excessive heat.
Do not puncture or drop containers.
Handle with care and avoid spillage on the floor.
Keep material out of reach of children.
Keep material away from incompatible materials.
Wash thoroughly after handling.
Ensure adequate ventilation.

**Storage Requirements:**

Keep away from heat, sparks and flames.
Store in a dry area.
Store away from strong acids, strong bases, strong oxidizing agents, strong reducing agents and Hydrogen Fluoride.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:**

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use local exhaust at filling zones and where leakage and dust formation is probable. Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

**Personal Protective Equipment:**

**Eye/Face Protection:**
When using material use safety glasses, gloves and combined dust/vapor respirator according to HMIS PP, I. All safety equipment should be tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

**Skin Protection:**
Handle with gloves made from water-impermeable materials. Barrier creams should not be used in place of gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose of contaminated gloves according to applicable laws and laboratory practices.

**Personal Protective Equipment:**

**Body Protection:**
Chemically resistant gloves and safety glasses are recommended. Type of protective equipment should be selected based on concentration amount and conditions of use of this material.

**Respiratory Protection:**
Use of a combined dust/vapor respirator is highly recommended. A full-face dust/ vapor respirator may be required as backup to engineering controls when proper engineering controls are not in place to keep TLV and PEL limits below defined thresholds. All respiratory equipment must either be NIOSH/MSHA-approved (under 30 CFR 11) or NIOSH-approved (under 42 CFR 84).

**Control of Environmental Exposure:**
Prevent leakage or spillage if safe to do so. Do not let material enter drains.

**Components with workplace control parameters:**
Component(s): Asphalt; Silica, crystalline quartz; Carbon black
CAS No(s): 8052-42-4; 14808-60-7; 1333-86-4
USA OSHA (TWA/PEL, General Industry): 30 mg/m$^3$ (%SiO2+2, Total Dust, 8 hours)
USA OSHA (TWA/PEL, General Industry): 10 mg/m$^3$ (%SiO2+2, Respirable Fraction, 8 hours)
USA OSHA (TWA/PEL, General Industry): 250 mppcf* (%SiO2+5)
USA OSHA (TWA/PEL, Construction Industry): 250 mppcf* (%SiO2+5)
USA OSHA (TWA/PEL, Shipyard Employment): 250 mppcf* (%SiO2+5)
USA OSHA Occupational Exposure Limits Table Z-1 Limits for Air Contaminants (TWA): 3.5 mg/m$^3$
USA ACGIH (TWA/TLV): 0.025 mg/m$^3$
USA NIOSH (TWA/REL): 0.050 mg/m3
Cal/OSHA (TWA/PEL): 0.10 mg/m3
*mppcf = Millions of particles per cubic foot of air

**Biological occupational exposure limits:**
Contains no substances with biological occupational exposure limits values.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Thixotropic, flowable black liquid | **Odor:** | Asphalt |
| **Physical State:** | Liquid | **Molecular Formula:** | MIXTURE |
| **Odor Threshold:** | Not determined | **Solubility:** | 100% |
| **Particle Size:** | Not determined | **Softening Point:** | Not determined |
| **Spec Grav./Density:** | 1.318 - 1.678 g/ml (11 - 14 lbs/gal) | **Percent Volatile:** | < 45% |
| **Viscosity:** | Not determined | **Heat Value:** | Not determined Not determined DNA |
| **Sat. Vap. Conc.:** | DNA | **Freezing/Melting Pt.:** | Not determined |
| **Boiling Point:** | > 100 °C (212 °F) | **Flash Point:** | (air = 1): Not determined |
| **Flammability:** | (solid, gas): Not flammable | **Octanol:** | < 1% |
| **Partition Coefficient:** | Not determined | **Vapor Density:** | Not determined |
| **Vapor Pressure:** | (mm Hg @ 20 °C): Not determined | **VOC:** | Not determined |
| **pH:** | @ 100%: 5 - 12 | **Bulk Density:** | DNA |
| **Evap. Rate:** | (N-Butyl Acetate = 1): Water | **Auto-Ignition Temp:** | |
| **Molecular Weight:** | MIXTURE | **UFL/LFL:** | |
| **Decomp Temp:** | Not determined | | |

## 10 STABILITY AND REACTIVITY

**Stability:** Product is stable under normal conditions.

**Conditions to Avoid:** Incompatibilities, flames, ignition sources.

**Materials to Avoid:** Strong acids, strong bases, strong oxidizing agents, strong reducing agents and Hydrogen Fluoride.

**Hazardous Decomposition:** Oxides of Aluminum, Carbon, Calcium, Magnesium, Nitrogen (NOx), Sodium and Sulfur. Trace quantities of Ammonia, Hydrogen Sulfide, Formaldehyde, and 2-aminoethanol.
Temperatures above 870 °C may cause Tridymite to form.
Temperatures above 1470 °C may cause Cristobalite to form.

**Hazardous Polymerization:** Will not occur.

## 11 TOXICOLOGICAL INFORMATION

**Component(s):** Asphalt; Silica, crystalline quartz; Carbon black
**CAS No(s):** 8052-42-4; 14808-60-7; 1333-86-4

**Acute Toxicity:**
LD50 Oral - Rat: 500 mg/kg
LD50 Dermal - Rabbit: > 2,000 mg/kg

**Skin Corrosion/Irritation:** Causes skin irritation.

**Serious Eye Damage/Eye Irritation:** Causes eye irritation.

**Respiratory or Skin Sensation:** No data available

**Germ Cell Mutagenicity:** No data available

**Carcinogenicity:** This product is or contains a component that is classifiable as to its carcinogenicity to humans (Silica, crystalline quartz), and two components that are classifiable as possibly carcinogenic to humans (Asphalt, Carbon black )based on their IARC, ACGIH, NTP or OSHA classifications. Limited evidence of carcinogenicity in human studies.

IARC: 1 - Group 1: Carcinogenic to humans (Silica, crystalline quartz); 28 - Group 28: Possibly carcinogenic to humans (Asphalt, Carbon black).
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: Known to be a human carcinogen (Silica, crystalline quartz).
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: No data available

Specific Target Organ Toxicity · Single Exposure: No data available

Specific Target Organ Toxicity · Repeated Exposure: Inhalation - May cause damage to organs through prolonged or repeated inhalation exposure when handling dried material.

Aspiration Hazard: No data available

Additional Information:
Component: Asphalt; RTECS: CI9900000
Component: Silica, crystalline quartz; RTECS: VV7330000
Component: Carbon black; RTECS: FF5800000

## 12 ECOLOGICAL INFORMATION

**Component(s):** Asphalt; Silica, crystalline quartz; Carbon black
CAS No(s): 8052-42-4; 14808-60-7; 1333-86-4

**Toxicity:**
*Toxicity to fish:*
LC50 - Danio rerio (Zebra Fish): > 1,000 mg/l (96 h)

*Toxicity to daphnia and other aquatic invertebrates:*
Static Test EC50 - Daphnia magna (Water Flea): > 5,600 mg/l (24 h)

*Toxicity to algae:*
Static Test EC50 - Desmodesmus subspicatus (Green Algae): > 10,000 mg/l (24 h)

**Persistence and Degradability:**
No data available

**Bioaccumulative Potential:**
No data available

**Mobility in Soil:**
No data available

**Results of PBT and vPvB Assessment:**
Not required/conducted

**Other Adverse Effects:**
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
May be harmful to aquatic life.

## 13 DISPOSAL CONSIDERATIONS

**Product:** Hazardous wastes shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution, release into the environment or damage to people and animals. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated Packaging:** Dispose of as unused product.

## 14 TRANSPORT INFORMATION

**DOT (US)**
Non-regulated material, liquid

**IMDG**
Non-regulated material, liquid

**IATA**
Non-regulated material, liquid

## 15 REGULATORY INFORMATION

**COMPONENT / (CAS/PERC) / CODES**

*Asphalt (8052424 10-20%) MASS, NJHS, NRC, PA, PROP65, SARA311/312, TSCA, TXAIR

*Silica, crystalline quartz (14808607 10-20%) MASS, NJHS, NRC, OSHAWAC, PA, PROP65, SARA311/312, TSCA, TXAIR

*Carbon black (1333864 <1.0%) MASS, NJHS, OSHAWAC, PA, PROP65, SARA311/312, TSCA, TXAIR

**REGULATORY KEY DESCRIPTIONS**

MASS = MA Massachusetts Hazardous Substances List
NJHS = New Jersey Right to Know Hazardous Substances
NRC = Nationally Recognized Carcinogens
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
PROP65 = CA Prop 65
SARA311/312 = SARA 311/312 Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

## 16 OTHER INFORMATION

**Disclaimer:**

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that RaynGuard Protective Materials, Inc., believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of RaynGuard Protective Materials, Inc.'s control, RaynGuard Protective Materials, Inc., makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

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