P.W. GILLIBRAND CO., INC

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name and SPECIALTY SAND PRODUCTS sold under various names: 12-16-20-30-50-

Trade Names: 60-70-80-90-100 mesh size and different blends. 30x140, G-Series Sand, T-

Series Sand and different blends for golf course and other sport fields.

Common Names: Silica sand, crystalline sand, quartz, flint, filter sand, filter gravel, glass sand,

frac sand, construction sand, construction gravel, and trade names.

Manufacturer: P.W. GILLIBRAND CO., INC

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Revision Number 1

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name, Chemical Compound | CAS Number | Typical % By Weight | |
|---|------------|------------------------|--|
| Amorphous Silica (Diatomaceous Earth), SiO ₂ | 61790-53-2 | 76 - 87 | |
| Crystalline Silica (Quartz), SiO ₂ | 14808-60-7 | 13 - 24 | |
| Natural Peat | n/a | 0 -20 | |

This product is 0.06% respirable SiO₂ by weight. See SECTION 10 for TOXICOLOGICAL INFORMATION.

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: This product is a white, silver, gray, tan, or granular sand. It is not flammable, combustible or explosive. It does not cause burns or severe skin or eye irritation. A single exposure will not result in serious adverse health effects. This product is not known to be an environmental hazard.

HMIS Rating: Health:0* Fire: 0 Physical Hazard: 0 Personal Protection: E

* Carcinogen

Primary Routes of Entry: Via respirable dust and particulates to the eyes.

Primary Target Organs: Respiratory system and eyes.

Potential Health Effects:

Inhalation: Prolonged exposure to respirable crystalline silica may cause silicosis, a fibrosis (scarring) of the lungs which is permanent and progressive that may lead to death. Silicosis may aggravate or increase the risk of tuberculosis, scleroderma, nephrotoxicity, bronchitis, emphysema, and asthma.

Skin Contact: Not applicable.

Eye Contact: A mechanical irritant which can cause moderate eye irritation. This product may cause abrasion to the cornea. Recommend not wearing contact lenses when working with product.

Ingestion: Not applicable.

Signs and Symptoms of Exposure:

Eyes: Exposure may cause eye tissue inflammation.

Inhalation: For single or limited exposures there are no signs or symptoms of exposure to crystalline silica. 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.

Medical Conditions Generally Aggravated by Exposure: The condition of individuals with existing respiratory illness can be aggravated by exposure to this product.

Carcinogenicity: This product contains respirable crystalline silica which is classified as a Class 1 carcinogen by IARC, a known human carcinogen by NTP, and a California Proposition 65 carcinogen.

SECTION 4: FIRST AID MEASURES

Inhalation: No specific first-aid is necessary since adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposure. In case of gross inhalation, remove the person to fresh air, give artificial respiration if needed and seek medical attention.

Eye Contact: Wash immediately with water. If irritation persists, seek medical attention.

Skin Contact: None required.

Ingestion: Not applicable.

SECTION 5: FIRE FIGHTING MEASURES

This product is not flammable, combustible or explosive. Hazardous polymerization will not occur.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Use of dustless methods (water or HEPA-A type Vacuum) to clean up if possible. Avoid breathing dust. See personal protective equipment (PPE) specified in EXPOSURE CONTROL/PERSONAL PROTECTION SECTION 8.

Waste Disposal Methods: This product is not a hazardous waste and should be disposed of in accordance with federal, state and local regulations. See SECTION 13.

SECTION 7: HANDLING AND STORAGE

Precautions During Handling and Use: Do not breathe dust. Use adequate ventilation and/or dust collection methods. Avoid breakage of bagged material or spills of bulk material. Wash or vacuum clothing which becomes dusty. If concentrations exceed applicable standards, then use proper respiratory protection. Avoid contact with eyes. The wearing of contact lenses is not recommended. See SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION.

Storage Requirements: None.

Special Sensitivity or Incompatibility: Avoid contact with strong acids and oxidizers. See SECTION 10. STABILITY AND REACTIVITY.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering and Administrative Controls: Natural ventilation is usually adequate for protection from inhalation hazards. Use designed ventilation systems and/or wet methods to control product in workplace air, if necessary. Use administrative controls such job rotation to supplement engineering controls. Use personal protection equipment (PPE) as a last resort to control exposure.

Respiratory Protection: Not normally required. May be required if material is further reduced in size to produce a higher fraction of respirable crystalline silica dust or dispersed into air (e.g. sandblasting). When concentrations exceed applicable standards, a NIOSH/MSHA approved air purifying respirator with HEPA cartridges or supplied air is recommended.

Eye Protection: Wear safety glasses with side shields or goggles to protect eyes from dust and particulate. Wearing of contact lenses is not recommended because dust can get under the lenses and cause abrasion of the cornea.

Skin Protection: Not required under normal circumstances

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 4046 °F (2230 C)

Specific Gravity (H2O = 1): 2.60 - 2.65

Melting Point: 3050 °F (1677C)

Solubility in Water: Insoluble

Appearance: White, silver, grey, tan, granular, crushed or ground solid.

Odor: None Taste: None

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: Contact with strong acids or oxidizing agents such as molten

magnesium, fluorine, chlorine trifluoride, manganese trioxide,

oxygen difluoride, or hydrofluoric acid may cause fires or generation

of corrosive gases.

Hazardous Polymerization: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Hazardous Components: Respirable crystalline silica - quartz (14808-60-7) 144 ppmw

Crystalline silica – quartz (14808-60-7) 13-24%

Amorphous silica - diatomaceous earth (61790-53-2) 76-87%

Chemical compound: Silicon Dioxide SiO₂

| Exposure Limits | ACGIH TLV | OSHA PEL | NIOSH IDLH | NOISH REL |
|--------------------------------|-----------------------|--|-----------------------|-----------------------|
| Respirable crystalline silica: | .05 mg/m ³ | $(10 \text{ mg/m}^3)/(\% \text{SiO}_2 + 2) \text{ mg/m}^3$ | 50 mg/m ³ | .05 mg/m ³ |
| Total crystalline silica: | .05 mg/m ³ | $(30 \text{ mg/m}^3)/(\% \text{SiO}_2 + 2) \text{ mg/m}^3$ | - | - |
| Amorphous silica: | 10 mg/m ³ | (80 mg/m ³)/(%SiO ₂) mg/m ³ | 3000mg/m ³ | 6 mg/m ³ |
| Respirable amorphous silica: | 3 mg/m ³ | - | - | - |
| Respirable nuisance dust: | 3 mg/m ³ | 5 mg/m ³ | - | - |
| Total nuisance dust: | 10 mg/m ³ | 15 mg/m ³ | - | - |

Silicosis: Prolonged exposure to respirable crystalline silica may cause silicosis, a fibrosis (scarring) of the lungs which is permanent and progressive that may lead to death. Silicosis may aggravate or increase the risk of tuberculosis, scleroderma, nephrotoxicity, bronchitis, emphysema, and asthma.

Carcinogenicity: This product contains respirable crystalline silica which is classified as a Class 1 carcinogen by IARC, a known human carcinogen by NTP, and a California Proposition 65 carcinogen.

Biological Agents: Blends that contain natural peat may also contain naturally occurring microorganisms. These microorganisms are ubiquitous in nature. Humans are repeatedly exposed, day after day, to a wide variety of such materials. There are no regulatory thresholds because: contaminants are a complex mixture and do not comprise and single entity; human responses to biologically derived contaminants depend on the specific material involved and workers' susceptibility to it; it is not possible to collect and evaluate this complex mixture using a single sampling method; and information relating concentration to health effects is generally insufficient to describe exposure in terms of dose-response. Information provided in this MSDS to control of crystalline silica is adequate to control microorganisms that may be present.

SECTION 12: ECOLOGICAL INFROMATION

This product is not known to be ecotoxic (i.e. there is no data which suggests that this product is toxic to birds, fish, invertebrates, microorganisms or plants).

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: This product is not a hazardous waste and may be landfilled. If material is contaminated with hazardous materials, place waste in properly labeled, suitable waste container. Contaminated material must be disposed in accordance with federal, state and local regulations using the proper waste classification.

SECTION 14: TRANSPORT INFORMATION

US DOT Shipping Name: Not Regulated DOT LABEL: None UN/NA Number: None

This product not listed as a hazardous substance by U.S. Department of Transportation.

SECTION 15: REGULATORY INFORMATION

OSHA Regulatory Status: Respirable crystalline silica is an OSHA carcinogen.

TSCA/CEPA Status: Components of this product is included in the TSCA and CEPA Chemical Inventories.

CERCLA: N/A

RCRA: N/A

NTP: Respirable crystalline silica (quartz) is classified as a substance known to the State of California to be a carcinogen.

California Proposition 65: This product contains respirable crystalline silica (quartz) that is classified as a substance known to the state of California to be a carcinogen.

SARA Title III:

Section 302 Extremely Hazardous: N/A

Section 311/312 Hazard Categories: Reportable as a hazardous substance. Check with your Local Emergency Planning Committee for reportable quantities.

Section 313 Toxic Chemicals: N/A

SECTION 16: DISCLAIMER

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE CORRECT. HOWEVER, P.W. GILLIBRAND CO., INC MAKES NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED WITH RESPECT TO THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ANY LIABILITY IN CONNECTION WITH ANY USE OF THIS INFORMATION AND OR ANY HARMFUL EFFECTS WHICH MAY BE CAUSED BY EXPOSURE TO ITS SILICA SAND. DISTRIBUTORS, CUSTOMERS AND USERS OF SILICA SAND MUST COMPLY WITH ALL APPLICABLE HEALTH AND SAFETY FEDERAL, STATE, LOCAL LAWS, REGULATIONS AND ORDERS, AND MUST SEEK MEDICAL, LEGAL, AND TECHNICAL OPINIONS REGARDING THEIR USE AND THEIR HAZARDS.