Sand or Gravel

Safety Data Sheet

1. Product & Company Identification

Other means of identification

Synonyms	Natural Sand, Gravel, Sand & Construction Aggregate
Recommended use	Sand and Gravel aggregate may be used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction materials. Sand and Gravel aggregate may be distributed in bags, totes, and bulk shipments. *Applies to all gradations*.
Recommended restrictions	None known.

Manufacturer information/Supplier/Distributor information:

Company	imi Aggregates Division of Irving Materials, Inc.
Address	8032 N State Road 9, Greenfield, IN 46140
Telephone	(317) 326-3101
Website	www.irvmat.com
Normal Hours of Operation	8:00 AM to 5:00 PM Monday thru Friday

2. Hazard(s) Identification

Physical hazards	Not classified.	
Health hazards	Carcinogenicity	Category 1A
	Specific Target Organ Toxicity, repeated exposure	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure.
Precautionary statements	
Prevention	Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If exposed or concerned: Get medical advice/attention.
Storage	Restrict or control access to stockpile areas. Engulfment hazard: to prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified	None known.
Supplemental information	Respirable Crystalline Silica (RCS) may cause cancer. Sand & gravel is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, sand & gravel is not a known health hazard. Sand & gravel may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica may cause lung cancer according to IARC and NTP and ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g. tridymite and cristobalite) may also be present or formed under certain industrial processes.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sand and Gravel	None	>99
Crystalline Silica (Quartz)	14808-60-7	>1

4. First-aid measures

Inhalation	Sand & Gravel dust: Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Sand & Gravel dust: Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Sand & Gravel dust: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.
Ingestion	Sand & Gravel dust: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
Most important symptoms/effects	Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing.
Acute and delayed	Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

5. Fire-fighting measures

Suitable extinguishing media	Sand & Gravel is not flammable. Use fire extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific chemical hazards	No unusual fire or explosion hazards noted. Not a combustible dust.
Special protective equipment and precautions for firefighters	Use protective equipment appropriate for surrounding materials.
Firefighting equipment/instructions	No specific precautions.

Specific methods	Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, and emergency procedures	Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate sand & gravel dust.
Methods and materials for containment and cleaning up	Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.
Environmental precautions	Avoid discharge of fine particulate matter into drains or water courses.

7. Handling and storage

Precautions for safe handling	Do not handle until all safety precautions have been read and understood. Keep formation of airborne dust to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage	Avoid dust formation or accumulation.

8. Exposure Controls/Personal protection

Occupational exposure limits

1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
2 – Value also applies to MSHA Metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001).
3 – OSHA enforces 0.250 mg/m^3 in construction and shipyards (CPL-03-00-007).
4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000, Table Z).
5 – MSHA limit = 10 mg/m^3.

U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Particulates not otherwise classified (CAS SEQ250)	PEL	5 mg/m^3	Respirable fraction
		15 mg/m^3	Total dust (4)

U.S. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (Quartz) (CAS 14808-60-7)	TWA	0.3 mg/m^3	Total dust (1,2)
		0.1 mg/m^3	Respirable (1,2,3)
Tridymite and Cristobalite (others forms of crystalline silica) (CAS Mixture)	TWA	0.15mg/m^3	Total dust (1)
		0.05 mg/m^3	Respirable (1,2)
Particulates not otherwise classified (CAS SEQ250)	TWA	5 mg/m^3	Respirable fraction (1)
		15 mg/m^3	Total dust (1,4,5)

U.S. ACGIH Threshold Limit Values®

Components	Type	Value	Form
Crystalline Silica (all forms; CAS mixture)	TWA	0.025 mg/m^3	Respirable fraction
Particulates not otherwise classified (CAS SEQ 250)	TWA	3 mg/m^3	Respirable particles (2)
		10 mg/m^3	Inhalable particles (2)

U.S NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Crystalline Silica (all forms; CAS mixture)	TWA	0.05mg/m^3	Respirable dust

Biological limit value No biological exposure limits noted for the ingredient(s).

Exposure guidelines OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including “Particulates Not Otherwise Classified”, “Particulates Not Otherwise Regulated”, “Particulates Not Otherwise Specified”, and “Inert or Nuisance Dust” are often used interchangeably; however, the user should review each agency’s terminology for differences in meanings.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand Protection Use personal protective equipment as required.

Other Use personal protective equipment as required.

Respiratory protection When handling or performing work with sand & gravel that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.

Thermal hazards Not anticipated. Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Solid, particles.

Color Gray, brown and variations of gray and brown.

Odor Not applicable.

Odor threshold Not applicable.

pH Varies between 7.0 to 8.0

Melting point/freezing point Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Non-combustible.

Evaporation rate Not applicable.

Flammability Not applicable.

Upper/lower flammability or explosive limits Not applicable.

Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Varies from 85 lbs/ft^3 to 115 lbs/ft^3
Solubility(ies) (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other information	
Explosive properties	Not applicable.
Flammability	Not applicable.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological information

Information on likely routes of exposure	
Inhalation	Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer.
Skin contact	Sand & gravel dust may cause irritation through mechanical abrasion.
Eye contact	Sand & gravel dust causes irritation through mechanical abrasion.
Ingestion	Not likely due to the form of the product. However, accidental ingestion of sand & gravel may cause discomfort.
Symptoms related to the physical, chemical and toxicological characteristics	Sand & gravel dust: discomfort in the chest. Shortness of breath, coughing.
Information on toxicological effects	
Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	This product is not expected to be a skin hazard.
Serious eye damage/irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	No respiratory sensitizing affects known.
Skin sensitization	Not known to be a dermal irritant or sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Respirable crystalline silica has been classified by IARC and NTP as known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

IARC Monographs - Overall Evaluation of Carcinogenicity

Crystalline Silica (Quartz) (CAS 14808-60-7)	1 Carcinogenic to humans.
Respirable Tridymite and Cristobalite (other forms of Crystalline) (CAS mixture)	1 Carcinogenic to humans.

NTP Report of Carcinogens

Crystalline Silica (Quartz) (CAS 14808-60-7)	Known to be human carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1000-1050)

None listed.

Reproductive toxicity	Not expected to be a reproductive hazard.
Specific target organ toxicity – single exposure	Not classified.
Specific target organ toxicity – repeated exposure	Respirable crystalline silica may cause damage to organs (lung) through prolonged or repeated exposure.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	Prolonged inhalation of respirable crystalline silica may be harmful as it may cause damage to organs (lung) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

12. Ecological information

Ecotoxicity	Not expected to be harmful to aquatic organisms. Discharging sand and gravel dust and fines into water may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.
Persistence and degradability	Not applicable.
Bioaccumulative potential	Not applicable.
Mobility in soil	Not applicable.
Other adverse effects	No other adverse environmental effects are expected from this material.

13. Disposal considerations

Disposal instructions	Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/ international regulations.
Hazardous waste code	Not regulated.
Waste from residue/unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code	Not applicable.

15. Regulatory information

U.S. federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, subpart D) Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1000.1001-1050) Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SRAR)

Hazard categories Immediate hazard – No.
Delayed hazard – Yes.
Fire hazard – No.
Pressure hazard – No.
Reactivity hazard – No.

SARA 302 Extremely hazardous substance Not listed.

SARA 311/312 Hazardous chemical Yes.

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List Not regulated.

Clean Air Act Section 112r Accidental Release Prevention (40 CFR 68.130) Not regulated.

Safe Drinking Water Act (SDWA)B Not regulated.

U.S. State regulations

Massachusetts RTK – Substance List

Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

U.S. New Jersey Worker and Community Right-to-Know Act

Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

U.S. Pennsylvania Worker and Community Right-to-Know Law

Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

U.S. Rhode Island RTK

Not regulated.

U.S. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

U.S. California Proposition 65 – Carcinogens & Reproductive Toxicity (CRT):

Listed substance: Crystalline Silica (Quartz) (CAS 14808-60-7)

International Inventories

Country(s) or Region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substance Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

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Version # **1**

For Further Information Contact:

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