



MATERIAL SAFETY DATA SHEET

(OSHA 29 CFR 1910.1200)

SECTION 1 - NAME AND PRODUCT

Manufacturer: Cemex, USA.
6601 Koll Center Parkway
P.O. Box 5252
Pleasanton, CA 94566

Emergency Telephone Number: 925-426-2113

Information Telephone Number: 925-426-8787

Product: **NATURAL FINE AND COARSE AGGREGATE**

Description: Common sand, gravel and crushed stone; sold as construction material in bulk quantities and included as a strengthening agent in Portland cement concrete and asphaltic concrete mixes. Specialty fine aggregate product with a maximum size of 0.132 inches is also sold as sand blasting agent.

Date Prepared: February 25, 1988;

Revised: March 30, 1993; October 21, 1999

SECTION 2 - CHEMICAL COMPOSITION

<u>Components & Chemical Formulas</u>	<u>CAS No.</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>
Natural Fine Aggregate (Sand)	quartz (SiO ₂)*; 14808-60-7	0.1 mg/M ³	0.1 mg/M ³
Natural Coarse Aggregate (Gravel/Stone)	Feldspars; N/A	N/A	N/A
	Silicates N/A	N/A	N/A
	+ possible trace amounts of heavy metals		

* quartz is a natural form of crystalline silica, see Section 5 warning

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

Solubility in Water: negligible Specific Gravity: 1.8 to 2.5+ (depending upon mineral composition)
Following properties are not applicable: Boiling point, vapor pressure, vapor density, melting point, evaporation rate.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Aggregate material is noncombustible and not explosive.

SECTION 5 - HEALTH HAZARD DATA

Acute Exposure: Small particles can irritate the eyes.

SECTION 5 (Continued)

Chronic Exposure: Product may contain respirable crystalline silica in the form of natural quartz. Prolonged exposure to high concentrations of respirable crystalline silica in the work place may cause silicosis and related pulmonary disease. In addition, a cancer health risk has been associated with respirable crystalline silica. Until an acceptable method for evaluating that risk is developed the following warning is required in the State of California.

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

SECTION 6 - REACTIVITY DATA

Natural fine and coarse aggregate materials are chemically stable and will not decompose into hazardous by-products.

SECTION 7 - STORAGE, HANDLING AND USE

Avoid prolonged exposure in dusty environments.

SECTION 8 - PERSONAL PROTECTION INFORMATION

Respiratory protection and ventilation: Adhere to MSHA and OSHA requirements for exposure and the use of respirators in the work place (see Sections 9 and 10).

Eye protection: Avoid eye contact by wearing tight fitting goggles or safety glasses with side shields when actively working with natural aggregate material.

SECTION 9 - SPECIAL PRECAUTIONS

In confined areas ventilation and dust collecting equipment can, if necessary, be used to control and maintain airborne dust at required levels. These precautions are especially important for sand blasting operations that use natural fine aggregate (see Section 10).

SECTION 10 - ADDITIONAL INFORMATION

MSHA work place threshold limit values (TLV's) continue to vary with % quartz in dust. It is currently proposed to return OSHA personal exposure limits (PEL's) to previous variable formulas that are the same as that used by MSHA.

$$MSHATLV = \frac{10}{\%silica + 2}$$

Currently proposed OSHA PEL standard will conform to the above MSHA formula for respirable quartz and 3 times that value for total quartz in a sample of dust material. Further revisions to both MSHA and OSHA standards may take place in the future. Contact OSHA or MSHA for latest regulations regarding worker protection from quartz-bearing dust.



TECHNICAL SERVICES LABORATORY

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LAPIS LUSTRE DRIED SAND

PHYSICAL PROPERTIES

COLOR	GRAY TO AMBER
UNIT WEIGHT	100 pounds per cubic foot
BULK SPECIFIC GRAVITY (Dry)	2.61
APPARENT SPECIFIC GRAVITY	2.65
ABSORPTION	0.5 percent
MOH HARDNESS	6 to 7
ACID SOLUBILITY	0.5 percent (AWWA B100-01, SEC 5.3.1)
SPHERICITY	0.5-0.6
ROUNDNESS	0.5-0.6

CHEMICAL ANALYSIS (Dry Basis)

Aluminum as Al₂O₃	8.96 percent
Calcium as CaO	1.04 percent
Chlorine as Cl	0.018 percent
Flourine as F	0.01 percent
Iron as Fe₂O₃	0.90 percent
Magnesium as MgO	0.20 percent
Potassium as K₂O	3.07 percent
Combined Silica as SiO₂	82.52 percent
Sodium as Na₂O	1.89 percent
Sulfur as SO₂	0.02 percent
Titanium as TiO₂	0.08 percent
Loss on Ignition	0.55 percent
Asbestos	NONE