Material Safety Data Sheet

SECTION 1 COMPANY AND PRODUCT IDENTIFICATION

PRODUCT NAME	
Ready Mix Concrete	Revised: 29 June 06

SYNONYMS

Portland Cement Concrete, Concrete, Mud, Ready-mix

MANUFACTURER	EMERGENCY PHONE NUMBER
Hanson Aggregates	800-424-9300 *CHEMTREC®*

SECTION 2 COMPOSITION & INFORMATION ON INGREDIENTS

OSHA / MSHA REGULATORY STATUS

This product is considered to be hazardous under the OSHA and MSHA Hazard Communication Standards.

HAZARDOUS COMPONENTS*	CAS NUMBER	% BY WEIGHT
Portland cement	65997-15-1	1 - 40
Crystalline silica (quartz)	14808-60-7	> 0.1, varies naturally

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Characteristic damp, musty odor; gray, flowable, granular mud-like material.
Non flammable.
Eye contact with wet concrete may cause irritation or burns; skin contact may cause irritation.
Dust from dry ingredients or hardened concrete may cause skin, eye or respiratory tract irritation.

PHYSICAL HAZARDS

None.

PRIMARY ROUTES OF EXPOSURE

Primary routes of exposure are skin and eye contact and inhalation of dust.

POTENTIAL EFFECTS AND SYMPTOMS OF ACUTE EXPOSURE

Short term skin contact with wet cement may result in minor irritation; however eye contact may result in moderate irritation to chemical burns.

Contact with dust from handling or mixing the dry ingredients of concrete and from cutting, breaking or crushing hardened concrete may cause irritation to the eyes and skin; inhalation may cause upper respiratory tract irritation. Symptoms may include irritation and tearing of the eyes, irritation and redness of exposed skin and temporary upper respiratory discomfort with coughing and sneezing. A rare “acute” form of silicosis may develop from inhalation of extremely high concentrations of crystalline silica over a period of several months to five years.

POTENTIAL EFFECTS AND SYMPTOMS OF CHRONIC EXPOSURE

Wet concrete exhibits caustic, abrasive and dehydrating properties. Irritation or pain may be delayed for several hours and cannot be relied upon as an indication of exposure. Lengthy skin contact with wet concrete may result in chemical burns or skin ulcers. These injuries may be

very slow healing and require skin grafts. Eye contact with wet concrete may result in irritation, burns and blindness. Long term skin contact with concrete dust may result in irritation or dermatitis; eye contact may result in irritation or burns. Inhalation of dust from dry ingredients may cause irritation to the moist membranes of the nose, throat and upper respiratory tract. Portland cement may contain trace amounts of hexavalent chromium, which is linked with allergic sensitization reactions in some individuals. These reactions may lead to contact dermatitis and skin ulceration.

Repeated or prolonged inhalation of high concentrations of respirable particles which contain crystalline silica may cause silicosis, an incurable lung disease. Silicosis is a scarring of the lungs which generally develops gradually over a period of years and may progress even after exposure has stopped. Early symptoms may be so mild that they are not noticed. In advanced cases, lung capacity is severely reduced and the risk of infectious diseases such as tuberculosis increases. Early symptoms of silicosis include coughing and shortness of breath on exercising; symptoms may progress to pain in the chest, loss of appetite, fatigue, weakness, inability to work. Complications may lead to respiratory or heart failure. Chronic silicosis generally occurs after 10 or more years of overexposure.

Studies indicate that people with silicosis have an increased risk of lung cancer; however, many of the studies do not take into account additive factors such as smoking.

CARCINOGENICITY

Concrete is not listed as a carcinogen by the International Agency on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). Classifications of the crystalline silica component are based on experimental studies with animals and epidemiologic studies of workers exposed to respirable crystalline silica.

IARC:	classified as Group 1, a substance known to cause cancer to humans
NTP:	classified as a known human carcinogen
OSHA:	not classified as a carcinogen
ACGIH:	classified as suspect human carcinogen
NIOSH:	classified as a potential occupational carcinogen

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Individuals with skin, eye or respiratory disorders may find these conditions aggravated by exposure to wet concrete or concrete dust.

SECTION 4 FIRST AID MEASURES

INHALATION

Move exposed individual to fresh air. Dust in throat and nasal passages should clear naturally by coughing, sneezing and nasal discharge. Obtain medical attention if symptoms persist or develop later.

EYE CONTACT

Do not allow individual to rub eyes. Flush gently under running water for 15 minutes or longer, making sure that the eyelids are held open. Other than washing with water, do not attempt to remove material from eyes. Obtain medical attention for eye contact with wet concrete.

SKIN CONTACT

Wash affected areas with water and soap. Remove contaminated clothing and wash before re-use. If irritation persists or develops later, obtain medical attention.

INGESTION

Ingestion is not a common route of occupational exposure. If swallowed and irritation or discomfort occurs, obtain medical attention.

SECTION 5 FIRE FIGHTING MEASURES

FLASH POINT	***FLAMMABLE LIMITS***
Not combustible.	Not applicable.

EXTINGUISHING AGENTS

Not combustible. Use extinguishing agent appropriate for surrounding flammable materials.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Spalling of hardened concrete may occur under conditions of intense heat.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Alkali resistant gloves, long sleeves, long pants and safety glasses should be used by cleanup personnel for wet concrete releases; for large spills, waterproof boots and goggles should be used. Eye protection and appropriate respiratory protection should be used to protect cleanup personnel against dust.

SPILL AND LEAK PROCEDURES

Keep unprotected personnel out of the area. Contain spills and wash water to prevent run-off into public waterways. Remove wet concrete from roadways immediately. Do not dry sweep spilled dusty material.

SECTION 7 HANDLING AND STORAGE

HANDLING PRECAUTIONS

Use personal protective equipment to avoid direct contact with wet cement; remove contaminated clothes as soon as possible. Dust containing respirable crystalline silica may be generated during handling or mixing dry ingredients or from cutting, breaking or crushing hardened concrete. Use wet cutting methods when possible.

RECOMMENDED STORAGE CONDITIONS

Store away from acids.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

REGULATORY PERMISSIBLE EXPOSURE LIMITS

COMPONENT & CAS #	***OSHA PEL***	***MSHA PEL***
Portland Cement CAS # 65997-15-1 (<1% crystalline silica) *Respirable Dust; **Total Dust	5 mg/m^3* 15 mg/m^3**	-- 10 mg/m^3**

COMPONENT	*OSHA PEL*	*MSHA PEL*
Respirable Dust containing 1% or more crystalline silica (quartz)	(10 mg/m^3) (%SiO2 + 2)	(10 mg/m^3) (%SiO2 + 2)
Total Dust containing 1% or more crystalline silica (quartz)	(30 mg/m^3) (%SiO2 + 2)	(30 mg/m^3) (%SiO2 + 3)

OTHER GUIDELINES

COMPONENT	*ACGIH TLV*	*NIOSH REL*
Portland Cement (<1% crystalline silica)	10 mg/m^3	5 mg/m^3
Crystalline silica (quartz) CAS#14808-60-7	0.025 mg/m^3	0.05 mg/m^3

ENGINEERING CONTROLS

When mixing or handling dry ingredients or cutting, breaking or crushing hardened concrete, use general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.

RESPIRATORY PROTECTION

The need for respiratory protection should be evaluated by a qualified professional. The use of respirators for controlling exposures in excess of the PEL must comply with OSHA and MSHA requirements for medical surveillance, respirator fit testing, repair and cleaning and user training.

EYE PROTECTION

Safety glasses with side shields should be worn as minimum protection. Goggles or full-face protection should be worn during pouring or other activities where splashing may endanger eyes or when dusty conditions are present or are anticipated.

SKIN PROTECTION

Alkali resistant gloves, long sleeves and long pants should be used to prevent contact with wet cement; waterproof boots high enough to prevent concrete from entering should be worn when workers will be standing in wet cement. Waterproof knee pads (or a dry board) should be used when kneeling on wet concrete. Use gloves to provide hand protection from abrasion when working with hardened concrete. In very dusty conditions, clothing with long sleeves will provide skin protection. Contaminated work clothing should be washed after use.

ADDITIONAL PROTECTIVE MEASURES

In dusty areas, air monitoring for respirable dust containing quartz should be conducted regularly. Airborne dust levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee work stations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	*SPECIFIC GRAVITY*
Flowable, granular mud-like material.	1.5 – 3.0
COLOR	*EVAPORATION RATE*
Gray	Not applicable.
ODOR	*VAPOR DENSITY (AIR = 1)*
None.	Not applicable.
BOILING POINT	*pH*
Not applicable.	Not applicable.

VAPOR PRESSURE	*SOLUBILITY IN WATER*
Not applicable.	Negligible.

SECTION 10 STABILITY AND REACTIVITY

STABILITY

Stable.

INCOMPATIBILITY

Wet concrete may react with acids, aluminum and other alkali and alkaline earth compounds.

HAZARDOUS DECOMPOSITION PRODUCTS

None.

HAZARDOUS POLYMERIZATION

Does not polymerize.

CONDITIONS TO AVOID

Avoid contact with acids, aluminum and other alkali and alkaline earth compounds.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA

Animal tests and epidemiologic studies of workers indicate an increased risk of lung cancer from chronic exposure to respirable crystalline silica; this effect was more pronounced in those with silicosis. However, many of the studies did not account for effects of smoking or other confounding exposures. In laboratory animal tests, dust containing newly broken particles of respirable silica particles caused greater lung injury than equal exposures to particles aged for sixty days or more.

SECTION 12 ECOLOGICAL INFORMATION

ECOLOGICAL DATA

Generally considered chemically inert in the environment.

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of waste product and unused product in compliance with federal, state and local requirements. Used material which has become contaminated, may have significantly different characteristics based on the contaminant and should be evaluated accordingly.

SECTION 14 TRANSPORT INFORMATION

DOT HAZARD CLASS

None.

DOT PLACARD

None.

SECTION 15 REGULATORY INFORMATION

US FEDERAL REGULATIONS

SARA 313

Immediate (Acute) Health Hazard.

CERCLA 103

Not applicable.

RCRA HAZARDOUS WASTE

Waste is not hazardous according to 40 CFR 261.

STATE REGULATIONS

COMPONENT	***STATE REGULATORY LISTS***
Crystalline Silica, quartz 14808-60-7	CA, FL, MA, MN, NJ, PA

SECTION 16 OTHER INFORMATION

For further information on this product contact

NOTICE: Hanson Building Materials America believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules, or insurance requirements.

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