AGGREGATE INDUSTRIES

MATERIAL SAFETY DATA SHEET

FILE NO.: Recycle Product
MSDS DATE: January 1, 2008

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Recycle Product**

SYNONYMS: **Recycled Concrete**

PRODUCT DESCRIPTION: **Granular mixed sized mineral with less than 5 % bituminous**

MANUFACTURER: **Aggregate Industries, Inc.**
ADDRESS: **7529 Standish Pl.**
Rockville, MD 20855

EMERGENCY PHONE: **(301) 284-3617**
POISON CONTROL: **(800) 222-1222**

PRODUCT USE: **Recycled Concrete is used as an aggregate in concrete and asphalt bases, concrete or asphalt mixes, flowable fill, as bulk fill material and other construction applications.**

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS: **Recycled concrete products are solid mixtures of gravel or rock, sand, Portland cement and may also contain fly ash, slag, pumice mixtures and other materials.**

CAS NO.		% WT	OSHA PEL-TWA: mg/m3	ACGIH TLV-TWA: mg/m3
14808-60-7	Crystalline Silica	> 1	[(10) / (%SiO_2 + 2)] Respirable (R) [(30) / (%SiO_2 + 2)] Total (T)	0.05 R
1305-62-0	Calcium Hydroxide	> 1	15 T; 5 R	10 R
65997-15-1	Portland Cement	> 1	15 T; 5 R	10 R
Particulate Not Otherwise Regulated		> 1	15 T; 5 R	15 T; 3 R

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Respirable crystalline silica (quartz) is the primary hazard in the product. Crystalline silica is bound in the concrete matrix. Recycled concrete in its intact state will not release airborne dust. Dust can be generated during cutting, drilling, grinding, chiseling, crushing or other machining of the product. The generated dust will contain respirable crystalline silica. When exposed to airborne dusts, use appropriate ventilation controls, and/or dust suppression measures (e.g., water streams or mists) and personal protective equipment (PPE) as described in Section 8.

Recycled concrete products may be heavy and pose hazards such as sprains and strains to the back, legs, arms and shoulders during lifting. Make sure product is securely stored to prevent falling. Ensure ground, floors, or platforms have adequate load bearing capacity before placing product on them.

ROUTES OF ENTRY: Inhalation, Skin, Eye Contact, and Ingestion

POTENTIAL HEALTH EFFECTS

EYES: **Airborne dust contacting the eyes may cause immediate or delayed irritation or inflammation. Exposure to large amounts of concrete dust can cause moderate eye irritation from abrasion. Eye exposures require immediate first aid and medical attention to prevent serious damage to eyes.**

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SKIN: **Concrete dust, especially combined with sweat and friction, can cause dry, irritated skin and dermatitis. Dermatitis symptoms include symptoms like redness, itching, rash, scaling and cracking.**

INGESTION: **Ingesting small amounts of concrete are not known to be harmful, but ingestion of large amounts can cause digestive tract distress and discomfort.**

INHALATION:

Acute: **Depending on the airborne concentration, breathing concrete dust can cause nose, throat, or respiratory tract irritation.**

Chronic: **Prolonged and repeated exposures to airborne dust containing respirable crystalline silica can cause chronic diseases such as silicosis, a lung disease which can be disabling and fatal, and lung cancer. Concrete is not listed as a carcinogen by the International Agency for Research on Cancer (IARC) or the National Toxicology Program (NTP). However, crystalline silica is classified as a known human carcinogen by IARC, NTP and California Proposition 65.**

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Persons with lung disease such as bronchitis, emphysema, COPD (Chronic Obstructive Pulmonary Disease), and other pulmonary diseases can be aggravated by exposure to airborne dusts containing concrete.

SECTION 4: FIRST AID MEASURES

EYES: **Do not rub eyes. Immediately flush eyes with lots of clean water for at least 15 minutes. Flush under eyelids to remove all particles. Seek medical attention. An eye exam is recommended. It may take 2 to 3 days after the exposure to assess condition of eyes.**

SKIN: **Wash with clean water and a pH neutral soap or a mild soap detergent for at least 15 minutes. Seek medical attention for irritation and rashes.**

INGESTION: **Concrete is not meant to be eaten. Seek medical attention if gastric irritation occurs. Contact the Poison Control Center (800) 222-1222.**

INHALATION: **Move person to fresh air. Seek medical attention for discomfort or if coughing and other symptoms do not stop.**

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR (% BY VOLUME): **Not flammable or combustible**

FLASH POINT: **Not Applicable**
METHOD USED: **Not Applicable**

AUTOIGNITION TEMPERATURE: **Not Applicable**

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NFPA HAZARD CLASSIFICATION
HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

HMIS HAZARD CLASSIFICATION
HEALTH: *1 FLAMMABILITY: 0 REACTIVITY: 0

0 = Minimal Hazard
1 = Slight Hazard
2 = Moderate Hazard
3 = Serious Hazard
4 = Severe Hazard

- **Respirable crystalline silica can cause lung disease and/or lung cancer**

PROTECTION: E – Safety glasses, gloves and dust respirator

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: **Recycled concrete does not pose a fire-related hazard. A SCBA is recommended to limit exposures to combustion products when extinguishing any fire.**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **None**

HAZARDOUS DECOMPOSITION PRODUCTS: **None**

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: **Place broken pieces in suitable containers for disposal. Avoid procedures which generate dust. If dust is generated, wear appropriate protective equipment as described in Section 8.**

WASTE DISPOSAL METHOD: **Dispose of waste concrete according to Local, State, Provincial and Federal regulations.**

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: **Recycled concrete products may be and pose hazards such as sprains and strains to the back, legs, arms and shoulders during lifting. Make sure product is securely stored to prevent falling. Ensure ground, floors, or platforms have adequate load bearing capacity before placing concrete products on them.**

OTHER PRECAUTIONS: **Avoid actions which cause concrete dust to become airborne during clean – up, such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean – up dust. Use PPE described in Section 8.**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: **To minimize exposure to dust or respirable crystalline silica, cutting or grinding concrete products should be conducted with a wet saw/grinder or with sufficient ventilation if possible.**

RESPIRATORY PROTECTION: **Under normal conditions no respiratory protection is required. In dusty conditions and where engineering controls are not feasible, NIOSH/MSHA approved respirators must be worn in accordance with a respiratory protection program which meets OSHA requirements as set forth at 29 CFR 1910.134 and ANSI Z88.2 – 1080 "Practices for Respiratory Protection."**

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EYE PROTECTION:	**Wear ANSI – approved glasses or safety goggles when handling this product and where dust is generated. Do not wear contact lenses when involved with activities which generate dust.**
SKIN PROTECTION:	**Wear gloves when handling concrete products. Remove clothing and protective equipment that becomes dusty and launder and clean before re-using.**
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	**Wear ANSI – approved hazard – toed safety boots when handling concrete products.**
WORK HYGIENIC PRACTICES:	**Avoid creating and breathing dust.**

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	**Granular matrix**
ODOR:	**None**
PHYSICAL STATE:	**Solid**
pH:	**7**
BOILING POINT:	**None, Solid**
MELTING POINT:	**None, Solid**
FREEZING POINT:	**None, Solid**
VAPOR PRESSURE (mmHg):	**Not applicable**
VAPOR DENSITY (AIR = 1):	**Not applicable**
SPECIFIC GRAVITY (H2O = 1):	**2.5**
EVAPORATION RATE:	**Not applicable**
SOLUBILITY IN WATER:	**Negligible**
PERCENT SOLIDS BY WEIGHT:	**100 %**
PERCENT VOLATILE:	**0 %**

SECTION 10: STABILITY AND REACTIVITY

STABILITY:	**Stable**
CONDITIONS TO AVOID (STABILITY):	**None**
INCOMPATIBILITY (MATERIAL TO AVOID):	**Reactive to strong oxidizing agents. Hydrofluoric acid dissolves silica to produce corrosive silicon tetrafluoride**

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gas. Acids react to produce heat. Nitro-organic compounds may react to form explosive salts.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: **None**

HAZARDOUS POLYMERIZATION: **Will not occur**

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: **Repeated, prolonged exposure to respirable crystalline silica can cause silicosis and lung cancer. Silicosis is a disabling, nonreversible and sometimes fatal lung disease. The development of silicosis may increase the risk of additional diseases.**

SECTION 11 NOTES: **Release of respirable crystalline silica will occur if recycled concrete products are sawed. drilled, ground, chiseled, crushed or pulverized. Actual levels must be determined by workplace industrial hygiene testing.**

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: **This product may be toxic to fish because of its high alkalinity.**

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: **This product is classified as a non-hazardous solid waste for disposal. Dispose of waste in compliance with applicable Local, State, Provincial and Federal regulations.**

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: **Same as product name**
HAZARD CLASS: **Not classified as hazardous**
ID NUMBER: **None**
PACKING GROUP: **None**
LABEL STATEMENT: **Not applicable**

SECTION 14 NOTES: **These products are not classified as hazardous under U.S. DOT or Canadian TDG regulations.**

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): **Not listed.**

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): **Not listed.**

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): **Not listed under Sections 302, 304 and 313.**

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OSHA: Dust and respirable crystalline silica generated during product use may be hazardous.

RCRA: **If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. Under RCRA it is the responsibility of the product end user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.**

STATE REGULATIONS:

Pennsylvania HSSF List – Components are listed.
Massachusetts Substance List – Components are listed.
Minnesota Substance List – Components are listed
New Jersey Right –to-Know Hazardous Substance List – Components are listed.
California Proposition 65 – Components are listed.

CANADIAN REGULATIONS:

These products have been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. All components of this product are included in the Canadian Domestic Substances List (DSL).

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SECTION 16: OTHER INFORMATION

Abbreviations:

< **>** **≥**	**Greater than** **Less than** **Equal to or greater than**	**NA**	**Not Applicable**
ACGIH	**American Conference of Governmental Industrial Hygienists**	**NFPA**	**National Fire Protection Association**
CAS No	**Chemical Abstract Number**	**NIOSH**	**National Institute for Occupational Safety and Health**
CERCLA	**Comprehensive Environmental Response, Compensation and Liability Act**	**NTP**	**National Toxicology Program**
CFR	**Code of Federal Regulation**	**OSHA**	**Occupational Safety and Health Administration**
CL	**Ceiling Limit**	**PEL**	**Permissible Exposure Limit**
DOT	**US Department of Transportation**	**pH**	**Negative log of hydrogen ion**
EST	**Eastern Standard Time**	**PPE**	**Personal Protective Equipment**
HEPA	**High-Efficiency Particulate Air**	**R**	**Respirable particulate**
HMIS	**Hazardous Materials Identification System**	**RCRA**	**Resource Conservation and Recovery Act**
IARC	**International Agency for Research on Cancer**	**SARA**	**Superfund Amendments and Reauthorization Act**
LC_{50}	**Lethal Concentration**	**T**	**Total particulate**
LD_{50}	**Lethal Dose**	**TDG**	**Transportation of Dangerous Goods**
mg/m^3	**Milligrams per cubic meter**	**TLV**	**Threshold Limit Value**
mppcf	**Million particles per cubic foot**	**TWA**	**Time Weighted Average (hours)**
MSHA	**Mine Safety and Health Administration**	**WHMIS**	**Workplace Hazardous Materials Information System**

THE INFORMATION RELATES TO THIS SPECIFIC MATERIAL. IT MAY NOT BE VALID FOR THIS MATERIAL IF USED IN COMBINATION WITH OTHER MATERIALS OR IN ANY PROCESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY ONESELF AS TO THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION FOR HIS OWN PARTICULAR USE. ALL MATERIALS MAY PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.