

SECTION 1: IDENTIFICATION

1.1 Product Identifier

Product Name: ECOSCM

1.2 Intended Use of the Product

Supplementary cementitious material; construction material for various civil engineering applications

1.3 Name, Address, and Telephone Number of the Responsible Party

Company

Eco Material Technologies Inc., and its subsidiary and affiliate companies
10701 S. River Front Parkway, Suite 300
South Jordan, UT 84095
(801) 984-9400

1.4 Emergency Telephone Number

502-525-3561

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the Substance or Mixture (GHS-Rev. 9)

Skin Irritation 2	STOT-SE (Single Exposure) 3 (Respiratory)	Carcinogenicity 1A
Eye Irritation 2A	STOT-RE (Repeated Exposure) 1 (Respiratory)	

2.2 Label Elements (GHS-Rev. 9)

Hazard Pictograms:



Skin Irritant
Eye Irritant
STOT-SE Respiratory System (Specific Target Organ Toxicity - Single Exposure)



STOT-RE Respiratory System (Specific Target Organ Toxicity - Repeated Exposure)

Signal Word: Danger

Hazard Statements:

- Causes skin irritation. (H315)
- Causes serious eye irritation. (H319)
- May cause respiratory irritation. (H335)
- May cause cancer (H350)
- May cause damage to respiratory system through prolonged or repeated exposure. (H373)

Precautionary Statements:

- Prevention:**
- Obtain, read, and follow all safety instructions before use. (P203)
 - Do not breathe dust. (P260)
 - Wash hands, forearms, and other exposed skin thoroughly after handling. Do not touch eyes. (P264)+(P265)
 - Do not eat, drink or smoke when using (P270)
 - Use only outdoors or in a well-ventilated area. (P271)
 - Wear protective gloves, protective clothing, and eye protection. (P280)

- Response:**
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301)+(P330)+(P331)
 - IF ON SKIN (OR HAIR): Wash with plenty of water. (P302)+(P352)
 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. (P304)+(P340)
 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing until pain or irritation subsides. (P305)+(P351)+(P338)
 - IF exposed or concerned, get medical advice. (P318)
 - If skin irritation occurs: Get medical help. (P332)+(P317)
 - Get medical help if you feel unwell. (P319)
 - If symptoms/irritation persist: Get medical advice/attention. (P308)+(P313)+(P332)+(P337)
 - Remove contaminated clothing and wash before re-use. (P362)+(P364)

Storage: • Store locked up. (P405)

Disposal: • Dispose of in accordance with all local, regional, national, and international regulations. (P501)

2.3 Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Repeat inhalation exposure may cause obstructive pulmonary disease, chronic bronchitis, silicosis, and cancer.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Description of Product

Blend – Coal Ash/Natural Pozzolan⁽¹⁾

3.2 Mixture

Ingredient	Common Name/Other Identifiers	CAS No.	Percent (w/w) [range]
Fly ash combustion residue (amorphous calcium-aluminum silicates) ⁽²⁾	Fly ash	68131-74-8	34 - 44
Silicon dioxide:	Silica	61790-53-2	20 – 23
Silica, crystalline	Quartz	14808-60-7	< 4 ⁽³⁾
Calcium oxide	Quicklime	1305-78-8	< 22
Aluminum oxide	Alumina	1344-28-1	< 5
Potassium oxide	Potash	12136-45-7	< 5
Phosphorus pentoxide		1314-56-3	< 2
Sodium oxide	Sodium oxide	1313-59-3	< 1

fn⁽¹⁾ Pozzolan is a natural earth substance extracted from an open-pit mine; as such, it contains additional silicates and oxides of magnesium, titanium, and iron at concentrations that do not contribute to the hazards of this substance.

fn⁽²⁾ Fly ash and other CCPs are UVCB substances (substances of unknown or variable composition or biological). Fly ash is defined by the U.S. EPA as: "The residuum from the burning of a combination of carbonaceous materials. The following elements may be present as oxides: aluminum, calcium, iron, magnesium, nickel, phosphorus, potassium, silicon, sulfur, titanium, and vanadium." The exact composition of fly ash is dependent on the fuel source and flue additives composed of many constituents. The classification of the final substance is dependent on the presence of specifically identified oxides as well as other trace elements.

fn⁽³⁾ Respirable fraction not determined

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. Any person who is experiencing symptoms of injury or illness should be moved to a comfortable area with fresh air and the label or SDS of this material reviewed. If feeling unwell, seek medical advice.

Inhalation: Move person to fresh air. If conscious, provide drinking water to flush the mouth and irrigate the upper respiratory tract. Seek medical attention if pain, coughing, or other symptoms do not subside.

Eye Contact: If the exposed person experiences burning eyes or irritation due to dust exposure, careful flushing with

clean water should continue for at least 15 minutes. If contact lenses are present, they should be removed after flushing if easy to do. Continue flushing. Obtain medical attention if irritation persists.

Skin Contact: Flush skin with plenty of water until irritation subsides. If irritation persists, obtain medical assistance. Wash contaminated clothing before reuse.

Ingestion: Ingestion is not an expected route of exposure. Rinsing mouth with water is appropriate.

4.2 Most Important Symptoms and Effects—Both Acute and Delayed

General: The most important symptoms and effects of exposure to this material after contact with dust are eye and skin irritation. Breathing dust can cause respiratory irritation and chronic respiratory illness if significant exposures occur repeatedly.

Inhalation: The immediate acute response to dust inhalation is respiratory system irritation. Upon repeated dust exposure at levels exceeding regulatory limits, the dust’s crystalline silica content may cause delayed or chronic respiratory illnesses, including silicosis and cancer.

Eye Contact: Dust exposure to the eyes may result in irritation, which must be immediately treated with first aid (Section 4) and medical attention if irritation persists.

Skin Contact: Contact with skin can cause irritation.

4.3 Indication of Immediate Medical Attention and Special Treatment

Any time symptoms of eye or respiratory irritation occur, immediate first aid should be provided as described in Section 4.1, and medical attention should be obtained if irritation persists.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Material is not combustible.

5.2 Special Hazards Arising from the Substance or Mixture

Fire Hazard: Not combustible.

Explosion Hazard: Material is not explosive.

Reactivity: Material is not reactive.

5.3 Advice for Firefighters

Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

General Measures: Do not breathe dust. Do not get dust in eyes or on skin.

Non-Emergency Personnel: Evacuate unnecessary personnel. Use appropriate personal protective equipment (PPE).

Emergency Personnel: Equip responders and clean-up personnel with proper protection, including appropriate clothing and eye and face protection. Respiratory protection should be used as necessary to prevent dust exposure. Ventilate area if dust is generated.

6.2 Environmental Precautions

Reuse material as appropriate to avoid disposal.

6.3 Methods and Material for Containment and Clean-Up

Containment: Contain and collect as any solid. Avoid actions that cause dust to become airborne. Do not breathe dust. Do not allow large quantities of dust or wetted material to contact skin or eyes.

6.4 Reference to Other Sections

See Section 8. Exposure Controls and Personal Protection. For waste management information, refer to Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Additional Hazards When Processed: Dust will be generated when transferring this material. Use engineered controls and other practices to control dust. Personal Protective Equipment (PPE) described in Section 8 should be used as necessary.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking, and again when leaving work.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Not applicable.

7.3 Specific End-Use(s)

No applicable limits.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limits

The following exposure limits are based on a time-weighted full-shift exposure unless otherwise noted.

Ingredient	OSHA PEL ⁽¹⁾ (mg/m ³)	ACGIH-TLV ⁽²⁾ (mg/m ³)	NIOSH REL ⁽³⁾ (mg/m ³)
Fly ash combustion residues ⁽¹⁾ (amorphouscalcium-aluminum silicates)	15 mg/m ³ (total) 5 mg/m ³ (respirable)	10 mg/m ³ (total) 3 mg/m ³ (respirable)	None Established
Silica, amorphous	80 mg/m ³ ÷ % SiO ₂	10 (total) 3 (respirable)	6 (total)
Crystalline silica (quartz) ⁽⁴⁾	50 µg/m ³ [0.05 mg/m ³ (respirable)]	0.025 (respirable)	0.05 (respirable)
Aluminum oxide	15 (total) 5 (respirable)	1 (respirable fraction containing no asbestos and < 1% crystalline silica)	10 (total) 5 (respirable)
Potassium oxide	2 mg/m ³ (total) 5 (respirable)	10 (inhalable)	None Established
Sodium oxide as PNOR ⁽⁵⁾	15 (total) 5 (respirable)	10 (inhalable) 3 (respirable)	None Established
Calcium oxide	5 (total)	2 (inhalable)	2 (total)
Phosphorus pentoxide	None Established	None Established	None Established

fn⁽¹⁾ ACGIH-TLV (American Conference of Governmental Industrial Hygienists-Threshold Limit Values 2022)

fn⁽²⁾ OSHA PEL (Permissible Exposure Limits at 29 CFR 1910.1000)

fn⁽³⁾ NIOSH REL (National Institute for Occupational Safety & Health Recommended Exposure Limit)

fn⁽⁴⁾ Crystalline silica is regulated by OSHA as Respirable Crystalline Silica (RCS) [29 CFR 1910.1053]. The percent of RCS in this mixture has not been determined.

fn⁽⁵⁾ PNOR – Particulate Not Otherwise Regulated

8.2 Engineering Controls

Emergency eyewash equipment should be available in the immediate vicinity of any potential exposure. Local exhaust or other suppression methods should be used to maintain dust levels below exposure limits.

Personal Protective Equipment: Wear protective goggles or safety glasses, gloves, and protective clothing. Wear respiratory protection if dust is present when transferring or processing.

8.3 Personal Protective Equipment



Hand Protection: Protective gloves as appropriate to prevent irritation and other hand injuries.

Eye and/or Face Protection: Approved safety glasses, goggles, and/or face shields.

Skin and Body Protection: Appropriate work clothing and footwear should be worn.

Respiratory Protection: If exposure limits may be exceeded or irritation is experienced, NIOSH-approved respiratory protection should be worn in accordance with the OSHA Respiratory Protection Standard [29 CFR 1910.134].

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State: Granular solid, flowable

Color: Varies, gray to tan

Odor: Essentially odorless

Melting Point/Freezing Point: No data available

Boiling Point: No data available

Flammability: Not flammable

Flash Point: Not applicable

Decomposition Temperature: Not applicable

pH: < 11 (in water)

Solubility: Slightly soluble in water

Density: 2.2 – 2.8

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Hazardous reactions are not expected to occur under normal conditions.

10.2 Chemical Stability

Stable.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization or other reactions are not expected. For gas generation, see 10.6.

10.4 Conditions to Avoid

Material can become airborne in moderate winds. Dry material should be stored in silos or other structures. Material stored outdoors should be covered or dampened to reduce dusting.

10.5 Incompatible Materials

Not applicable.

10.6 Hazardous Decomposition Products

Not expected under normal conditions. Wetted material contains ammonia and may release ammonia gas, which may result in nuisance odor or potential harmful exposure in a confined area.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Likely Routes of Exposure

Skin Contact: Material may irritate unprotected skin.

Eye Contact: Material may cause serious irritation of unprotected eyes.

Inhalation: Respirable dust may be generated that if inhaled, can cause respiratory system irritation. Prolonged or repeated inhalation exposure may cause chronic respiratory illness, including silicosis and cancer.

Ingestion: Not expected to be an exposure route of concern.

11.2 Symptoms Related to Physical, Chemical, and Toxicological Characteristics

Immediate Effects: Irritation of skin, eyes, and respiratory tract due to dust inhalation or exposure of eyes and skin to material.

Delayed and Chronic Effects: Prolonged or repeated inhalation of dust may result in chronic lung disease, silicosis, or lung cancer.

11.3 Numerical Measures of Toxicity

The acute and chronic effects of exposure to this product's dust have not been quantified.

11.4 Carcinogenicity

The ingredient quartz, also known as crystalline silica, has been determined to be carcinogenic by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP). The potential cancer (H350) Hazard

Class designation disclosed in Section 2 is conservative and based on the percentage of crystalline silica in this mixture product. Toxicological studies conducted on fly ash materials, including oral and inhalation repeated dose, as well as mutagenicity, have shown no evidence of carcinogenic effects that, except for the numerical percentage of crystalline silica and other potential carcinogenic substances included in OSHA GHHCS Guidance, classification as acarcinogen is not required. Reference: *American Coal Ash Association Safety Data Sheet Guidance Document*, May 2015.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

No additional information available.

12.2 Persistence and Degradability

Not available.

12.3 Bioaccumulative Potential

Not available.

12.4 Mobility in Soil

Not available.

12.5 Other Adverse Effects

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Waste Disposal Recommendations: Excess material should be reused or recycled. Material as waste is not hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR 261). Waste material should be prevented from entering sewer systems, surface waters, or the environment. Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 DOT (U.S.)

Not regulated for transport.

14.2 TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS

Not regulated for transport.

14.3 TDG (Canada)

Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

15.1 U.S. Federal Regulations

SARA Section 311/312 Hazard Classes (40 CFR 370)

Reporting of fly ash and pozzolan is required if the reporting threshold (10,000 pounds) is exceeded:

- Skin corrosion or irritation
- Serious eye damage or irritation
- Specific target organ toxicity (single or repeated exposure)—Respiratory

SARA Section 313 Emission Reporting

Fly ash and pozzolan are not listed in Part 372.65. Trace elements should be considered in TRI reporting.

TSCA Inventory

All constituents are included on the Toxic Substances Control Act Chemical Inventory (40 CFR 720) and exempt from inventory update reporting (40 CFR 710).

15.2 U.S. State Right-to-Know Laws

Coal ash and pozzolan contain hazardous substances subject to inventory reporting and other requirements of the Massachusetts, New Jersey, Pennsylvania, and/or California right-to-know laws.

Massachusetts, New Jersey, and Pennsylvania


Component	CAS No.	Component	CAS No.
Calcium oxide	1305-78-8	Phosphorus pentoxide(or phosphorus oxide)	1314-56-3
Potassium oxide	12136-45-7	Aluminum oxide	1344-28-1
Silica – crystalline quartz	14808-60-7	Sodium oxide	1313-59-3

References to Table:

Massachusetts: 301 CMR 41, *et seq.* (January 16, 2015)
 New Jersey: New Jersey Revised Statutes 34:5A-5 (2016) and New Jersey Health Department List
 Pennsylvania: Title 34 Pennsylvania Code, Chapter 323

Note: These lists include specific chemicals and cross-references to other regulatory lists, such as EPCRA § 313 and OSHA PELs at 29 CFR 1910.1000.

California Proposition 65

 **WARNING:** This product can expose you to chemicals, including crystalline silica, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

15.3 Canada Safety, Health, and Environmental Regulations

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL / NDSL or exempt from notification.

CEPA – National Pollutant Release Inventory (NPRI)

Crystalline silica and aluminum oxide are listed on the NPRI and reportable at 10 tonnes MPO (manufactured, processed, or otherwise used).

15.4 Other: HMIS and NFPA

NFPA:	Health: 2	Flammability: 0	Instability: 0	Special:	
HMIS:	Health: *2	Flammability: 0	Physical: 0	PPE:	(E) + (q) and protective clothing

PPE: Protective clothing AND



AND q

SECTION 16. OTHER INFORMATION

Party Responsible for Preparation of this Document

Eco Material Technologies Inc., and its subsidiary and affiliate companies
 (801) 984-9400

Limitations

The information and recommendations set forth herein are based on data we have in our possession, and we have reason to believe is accurate. It is, however, the user’s responsibility to determine the safety, toxicity, or suitability for his/her own use of the herein-described product. Because the actions of others are beyond our control, Eco Material Technologies Inc. and its subsidiary and affiliate companies make no warranty expressed or implied regarding the accuracy of the data or the results to be obtained from the use thereof.

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