

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet meets or exceeds the requirements of the Canadian Controlled Product Regulations (WHMIS)

1. Product and Supplier Identification

Product: Pentimento

Product Use: Concrete Topping

Manufacturer: Smart Surface Technology Inc.,
Unit 143 – 14273 Knox Way,
Richmond, B.C., Canada, V6V 2Z7
Telephone: (604) 244-3122
Facsimile: (604) 244-3115

24-Hour Emergency Response Telephone for Transport Emergencies ONLY: +1 (613) 996-6666

2. Composition

Component	% (w/w)	Exposure Limits/ACGIH ¹	LD ₅₀	LC ₅₀
Calcium Oxide CAS No 1305-78-8	0.1-0.2	TLV-TWA: 2 mg/m ³ , irritation	N/Established	N/Established
Calcium silicate CAS No 1344-95-2	18-22	TLV-TWA: 10 mg/m ³ , irritation	N/Established	N/Established
Calcium sulphate CAS No 7778-18-9	0-10	TLV-TWA: 10 mg/m ³ , irritation	N/Established	N/Established
Concrete Sand/ Fine Sand (May contain crystalline silica) CAS 14808-60-7	40-60	TLV-TWA: 0.05 mg/m ³ for respirable crystalline silica dust	>31600 mg/kg (rat/oral)	>2 mg/L (rat/1 hour)

¹ American Conference of Governmental Industrial Hygienists (ACGIH). Exposure limits may vary from time to time and from one jurisdiction to another. Check with local regulatory agency for the exposure limits in your area.

3. Hazards Identification

Routes of Entry:

Skin Absorption: No
Skin Contact: Yes
Eye Contact: Yes
Ingestion: Yes
Inhalation: Yes

Emergency Overview:

Calcium oxide is corrosive to eyes and skin and although these products contain small amounts of this chemical, care should be taken to limit skin exposure and prevent eye contact. Dust created from mishandling this product will cause irritation of the upper respiratory tract if inhaled.

Sand (silicon dioxide) may contain crystalline quartz, which has been classified as a carcinogen by The International Agency for Research on Cancer (IARC). It has been concluded that crystalline silica in the form of quartz or cristobalite from occupational sources should be classified as carcinogenic to humans (Group 1). The major route of entry is inhalation, but the sand in this product is such that dusting of the silica is minimal.

Acute Health Effects:

Inhalation:

Inhalation of cement dust will cause irritation to the upper respiratory tract. The dust that is created from improper handling procedures is mainly calcium oxide which can cause a minor burning sensation to the nostrils and mouth. Exposure may cause sore throat, coughing, sneezing, and the production of phlegm in the throat. Nosebleeds may occur in cases of those with sensitive nose membranes.

Skin Contact:

Contact may cause temporary, mild irritation of the skin to moist skin. Reaction with water releases heat and produces a weak basic chemical compound which may give a mild burning sensation to sensitive skin. Cement mixtures are very abrasive to skin, and may aggravate tender skin causing rash, cuts or sores.

Skin Absorption:

There is no evidence of any component of these products entering the body by this method.

Eye Contact:

Severe eye irritant, causing burns, known as "lime burns".

Ingestion:

Oral toxicity is low, but ingestions may cause irritation of the gastrointestinal tract. Ingestion of large quantities of cement will cause stomach cramps, vomiting, and diarrhea.

Chronic Health Effects:

Prolonged exposure to cement mixtures may produce dermatitis and eczema. This product is not expected to accumulate in the body. Cement dust can cause inflammation of the tissue lining the interior of the nose and the cornea of the eye.

Medical Conditions Aggravated by Exposure:

Respiratory problems may be aggravated by pre-existing lung disease such as bronchitis, emphysema, or chronic obstructive pulmonary disease.

4. First Aid Measures

Inhalation:

If irritation causes coughing or phlegm, remove to fresh air. Call for medical assistance if coughing doesn't subside.

Skin Contact:

Wash affected area thoroughly with soap and water. If irritation persists, seek medical attention.

Eye Contact:

Immediately and thoroughly flush eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, or lacrimation exists, get medical attention as soon as possible.

Ingestion:

If patient is conscious, give one or two glasses of water. **Do not induce vomiting.** Do not give anything by mouth to a convulsing or unconscious person. Get immediate medical attention.

General Comments:

Good personal hygiene is essential. Avoid eating, smoking or drinking in work areas.

5. Fire Fighting Measures

Flammability: No

Flash Point: Not applicable

Autoignition Temperature: Not applicable

Lower Explosive Limit: Not applicable

Upper Explosive Limit: Not applicable

Explosion Data:

Sensitivity to Impact: No

Sensitivity to Static Discharge: No

Hazardous Combustion Products: None known

Conditions to Avoid: None

Extinguishing Media: These materials are not flammable. Use any medium necessary to extinguish surrounding fire. If possible, try to keep uninvolved product dry.

Fire Fighting Instructions: Evacuate area and fight fire from a safe distance or a protected area. Approach fire from upwind. At high temperatures fumes of calcium oxide may evolve. Firefighters must wear self-contained breathing apparatus and full protective clothing.

6. Accidental Release Measures

Personal Protection:

Wear adequate personal protection to prevent inhalation of dusts, contact with skin or eyes. See Section 8 for specific recommendations.

Environmental Precautions:

Prevent from spilling into waterways, sewers.

Cleanup Procedures:

Restrict access to area until completion of cleanup. Avoid harmful exposure to dusts. Only adequately trained personnel, wearing properly selected personal protective equipment and clothing described in Section 8, should be involved in the spill response and cleanup.

7. Handling and Storage

Handling Procedures:

This material is mildly corrosive and reactive with water. Handle bags in a manner that will ensure minimal generation of dusts. Do not get on skin or do not breathe dust, which may generate accidentally. Follow safe work procedures and wear the appropriate personal protective equipment specified in Section 8. The workers must be instructed and trained in the safe work procedures.

Storage:

Keep dry! This product reacts with water to harden. Store in a sheltered area away from moisture. Do not store near foodstuffs. Store away from incompatible materials such as strong acids.

8. Exposure Controls, Personal Protection

Engineering Controls:

Ensure that sufficient ventilation is available to keep dust below the TLV. If possible, mix this product outdoors. Airborne concentrations should be low, however, provide adequate ventilation to ensure airborne concentrations are kept below applicable regulated exposure limits.

Respiratory Protection:

Respirators must be NIOSH approved and properly selected, maintained and used when working with this product. Knowledge of respiratory hazards and respiratory protection is essential to ensure appropriate selection of respirators. Use an approved NIOSH dust respirator with a minimum N95 rating.

Skin Protection:

Wear clothing to prevent contact with skin.

Eye and Face Protection:

Wear safety glasses to prevent contact with eyes and make immediately available appropriate emergency eyewashing equipment (e.g. portable or plumbed) capable of flushing the eyes for at least 15 minutes.

9. Physical and Chemical Properties

Physical State:	Solid
Appearance:	Grey powder with sand particles
Odour:	None
Odour Threshold:	Not applicable
pH:	10-12 (supernatant)
Vapour Pressure:	Not applicable
Solubility in water:	No
Vapour Density:	Not applicable
Melting Point:	Not applicable
Boiling Point:	Not applicable
Freezing Point:	Not applicable
Specific Gravity:	2.7 – 2.8 (water = 1)
Coefficient of Water/oil Distribution:	Not applicable
Evaporation Rate:	Not applicable

10. Stability and Reactivity

Chemical Stability:	This product is stable.
Hazardous Polymerization:	Will not occur.
Incompatibility:	Yes. Reacts with strong inorganic acids to give off carbon dioxide gas.
Reactivity:	Yes. Reacts with water forming polymerized silicates and calcium oxide.
Hazardous Decomposition Products:	None

11. Toxicological Information

Effects of Acute Exposure:	See Section 3
Effects of Chronic Exposure:	See Section 3
Irritancy:	Yes. See Section 3.
Skin Sensitization:	None reported
Respiratory Sensitization:	None reported
Neurotoxicity:	No
Carcinogenicity:	Crystalline silica is listed by IARC
Embryotoxicity:	No
Teratogenicity:	No
Reproductive Toxicity:	No
Mutagenicity:	No
Synergistic Products:	None reported

12. Ecological Information

Environmental Toxicity: Hardened concrete has no environmental toxicity. Do not pour powdered product into the environment, waterways or sewers

Biodegradability: Hardened concrete will not biodegrade.

13. Disposal Considerations

Review federal, provincial or state, and local government requirements prior to disposal. Store material for disposal as indicated in Storage Conditions. Disposal by controlled incineration may be acceptable.

14. Transport Information

Canadian Transportation of Dangerous Goods Regulations:	Not regulated
International Air Transport Association (IATA):	Not regulated
International Maritime Organization (IMO):	Not regulated

15. Regulatory Information

CANADIAN FEDERAL REGULATIONS:

CEPA, DOMESTIC SUBSTANCES LIST: Listed

WHMIS CLASSIFICATION: E, D2A

16. Other Information

Original Preparation Date: June 6, 2006

Prepared by: Kel-Ex Agencies Ltd., P.O. Box 52201, Lynnmour RPO, North Vancouver, BC, Canada, V7J 3V5

Disclaimer: This Material Safety Data Sheet was prepared in accordance with criteria and requirements of the Hazardous Products Act and the Controlled Products Regulations using information provided by the manufacturer and other sources including CCINFO (Chemical Information published by the Canadian Centre for Occupational Health and Safety). The information in the Material Safety Data Sheet is offered for your consideration and guidance when exposed to this product. The data in this MSDS does not apply to use with any other product or in any other process.

This Material Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of Smart Surface Technology Inc.

Latest revision: None