SECTION 1 - PRODUCT IDENTIFICATION

Manufacturer/Supplier identifier:

Ardex Engineered Cements
400 Ardex Park Drive
Aliquippa, PA 15001
U.S.A.
Tel: (724) 203-5000

MATERIAL SAFETY DATA SHEET

Use in case of emergency only:
CHEM-TEL – 1-800-255-3924
OR
1-813-248-0585 (call collect)

Visit our Website: http://www.ardex.com

Product identifier/Trade name:
Ardex K-500

HMIS Hazard Index:
HEALTH = 2 FLAMMABILITY = 0 REACTIVITY = 0
4 = Severe 3 = Serious 2 = Moderate 1 = Slight 0 = Minimal

WHMIS Classification:
E – Corrosive material
D2A – Toxic material with other toxic effects

CHEMICAL NAME	CHEMICAL FAMILY	CHEMICAL FORMULA
Not Applicable	Not Applicable	Not Applicable
TRADE NAME AND SYNONYMS	**MOLECULAR WEIGHT**	**MATERIAL USE**
Ardex K-500	Not Applicable	Cement

SECTION 2 - CHEMICAL COMPOSITION / HAZARDOUS INGREDIENTS

Hazardous Ingredients	C.A.S. Numbers	% (weight)	OSHA PEL TWA	OSHA PEL STEL	ACGIH TLV TWA	ACGIH TLV STEL
Portland cement	65997-15-1	30-60	N/Av	N/Av	N/Av	N/Av
Calcium carbonate	1317-65-3	30-60	15 mg/m^3	N/Av	10 mg/m^3	N/Av
Ethylene vinyl acetate copolymer	24937-78-8	10-30	N/Av	N/Av	N/Av	N/Av
Silica, quartz	14808-60-7	30-60	0.1 mg/m^3	N/Av	0.05 mg/m^3	N/Av

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200).

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview
CORROSIVE. Fine gray powder; odorless. Causes moderate burns to digestive tract, respiratory tract, skin and eyes. Prolonged or repeated overexposure to dusts/vapors may cause cancer and/or severe scarring of the Lungs.

POTENTIAL HEALTH EFFECTS:

Primary entry route(s):
Skin, eye, ingestion and inhalation.

Target organs:
Lungs, kidneys and liver

Effects of short-term (acute) exposure:
Inhalation: Causes moderate burns to respiratory tract.

Skin: Causes moderate burns to skin. Symptoms such as redness and pain may occur.

Eye: Causes moderate burns to eyes. Symptoms such as redness, pain, and blurred vision may occur. Severe exposure could result in eye burns that might cause permanent injury.

Ingestion: Causes moderate burns to digestive tract. Symptoms such as pain, nausea, vomiting, diarrhea, weakness and collapse may occur.

SECTION 3 - HAZARDS IDENTIFICATION continued

Effects of long-term (chronic) exposure:
Prolonged or repeated overexposure to dusts/vapors may cause cancer and/or severe scarring of the Lungs (also known as Silicosis) which may then affect kidneys and liver.

Conditions aggravated by exposure: Any existing respiratory tract and skin conditions.	**Carcinogenic status:** See TOXICOLOGICAL INFORMATION, Section 11.
Additional health hazards: For further information, see TOXICOLOGICAL INFORMATION, Section 11.	**Potential environmental effects:** See ECOLOGICAL INFORMATION (Section 12).

SECTION 4 - FIRST AID MEASURES

Inhalation: In case of exposure to excessive quantities of dusts/vapours, remove source of contamination or have victim move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Skin contact: Flush skin thoroughly with lukewarm water and soap. Under running water, remove contaminated clothing. Get medical attention immediately.

Eye contact: Flush eyes thoroughly with lukewarm water for at least 15 minutes while holding the eyelid(s) open. Get medical attention immediately.

Ingestion: Never give anything by mouth if patient is unconscious. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink two glasses of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Get medical attention immediately.

SECTION 5 – FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability:
Product is not flammable under normal conditions.

Flammability classification (OSHA 29 CFR 1910.1200):
Non-flammable.

Flash point (Method): Not applicable	**Lower flammable limit (% by volume):** Not applicable	**Upper flammable limit (% by volume):** Not applicable
Auto-ignition temperature: N/Av	**Hazardous combustion products:** Carbon monoxide, carbon dioxide, and other toxic vapors and gases that are common to thermal degradation or organic compounds.	
Sensitivity to mechanical impact: N/Av	**Sensitivity to static discharge:** N/Av	

Suitable extinguishing media:
Carbon dioxide, dry chemical powder, appropriate foam or water fog.

Special fire-fighting procedures/equipment:
Firefighters should wear proper chemically protective equipment and self-contained breathing apparatus. Move containers from fire area if it can be done without risk. Closed containers may explode with the pressure building from the heat. Use water to cool fire exposed containers. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions:
CORROSIVE. Wear personal protective equipment during clean-up. Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment especially where exposure to vapor, dust or fume is possible.

Spill response/Cleanup:
Ventilate area of spill or release. Eliminate all sources of ignition. Contain material, preventing it from entering sewer lines or waterways. Use absorbents to assist the pick up of material. Scrape up product and place it into a container for disposal. Residual of product, while still wet, can be cleaned up with warm soapy water. Notify the appropriate authorities as required.

Environmental precautions:
Do not allow material to be discharged into the atmosphere or into sewers or ground water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES continued

Special spill response procedures:
If a spill/release in excess of EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).

DOT/CERCLA Reportable quantity (RQ): None to report.

SECTION 7 - HANDLING AND STORAGE

Safe handling procedures:
CORROSIVE. Wear suitable protective equipment. Use with adequate ventilation. Training the workers on the potential health hazards associated with product vapor, dust or fume is important. Secondary inhalation exposures could occur when cleaning equipment, or when removing or laundering the clothing. Do not breathe vapors, fumes or dust. Avoid contact with eyes, skin and clothing. Keep away from flame, sparks and other ignition sources. Avoid and control operations which create vapors/dusts.

Storage requirements:
Store in a cool (temperature below 32.2°C / 90°F), dry, well-ventilated area. No smoking in the area. Protect from damage.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls:
Use with adequate ventilation. Normal ambient ventilation should be sufficient.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Respiratory protection is required if the concentrations are higher than the exposure limits. Use a NIOSH approved respirator if the exposure limits are unknown.

Skin protection and other protective equipment: Impervious gloves appropriate to the material if skin contact with product is expected. Advice should be sought from glove suppliers. Where exposure to product is possible use protective clothing. An eyewash fountain and safety shower should be made available in the immediate working area.

Eye / face protection: Wear protective chemical safety goggles or in a splash environment in combination with a face shield.

Permissible exposure levels:
For individual ingredient exposure levels, see Section 2.

General Hygiene Considerations:
Avoid contact with eyes, skin and clothing. Avoid breathing vapors/dusts. Never eat, drink, or smoke in work areas. Clean all equipment and clothing at end of each work shift.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Fine gray powder (solid)		**Odor and appearance:** Fine gray powder; odorless.	
Odor threshold: N/Av	**Specific gravity (water = 1):** 1.2	**Vapor pressure:** N/Av	**Vapor density:** N/Av
Evaporation rate: N/Av (n-Butyl acetate = 1)	**Boiling point:** N/Av	**Melting/freezing point:** N/Av	**Solubility in water:** Less than 50 g/1000 cm^3
% volatile by volume: N/Av	**pH:** N/Av	**Coefficient of oil/water distribution:** N/Av	**Particle size:** N/Av
% volatile by weight: N/Av	**Weight/Gallon:** N/Av	**Volatile Organic Content (VOC):** N/Av	

SECTION 10 – REACTIVITY AND STABILITY DATA

Stability and reactivity:
Stable under the recommended storage and handling conditions prescribed.

Polymerization:
Hazardous polymerization will not occur.

Conditions to avoid:
Temperatures above 32.2°C / 90°F.

SECTION 10 – REACTIVITY AND STABILITY DATA continued

Materials to avoid:
Strong oxidizing agents and acids.

Hazardous decomposition products:
Carbon monoxide, carbon dioxide, and other toxic vapors and gases that are common to thermal degradation or organic compounds.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological data:
There is no available data for the product itself. See below for individual ingredient acute toxicity data.

Ingredients:	LD_{50} (route, species):	LC_{50} (species):
Portland cement	Not Available	Not Available
Calcium carbonate	6450 mg/kg (oral, rat)	Not Available
Ethylene vinyl acetate copolymer	Not Available	Not Available
Silica, quartz	Not Available	Not Available

Carcinogenicity:
Silica, quartz is classified as carcinogenic (or possible carcinogenic) to humans by IARC, NTP, OSHA and ACGIH.

Teratogenicity, mutagenicity, other reproductive effects:
None known.

Sensitization to material:	**Synergistic materials:**
N/Av	N/Av
Irritancy of material: Moderate degree of irritation to skin, eyes, respiratory and digestive tract.	

For more details, refer to Section 3.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental effects:
N/Av

Important environmental characteristics:
N/Av

Aquatic toxicity:
N/Av

SECTION 13 - WASTE DISPOSAL

Handling and storage conditions for disposal:
Handle according to recommendations listed in Section 7.

Methods of disposal:
Dispose of in sealed containers in accordance with all applicable government regulations. Dispose in accordance with all applicable federal, provincial, state and local regulations. Contact your local, state or federal environmental agency for specific rules.

RCRA:
If this product, as supplied, becomes a waste, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. Waste classification should be determined by the end user of the product. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 - TRANSPORTATION INFORMATION

Transportation of Dangerous Goods (TDG) Information:
This product is not regulated according Canadian Regulations.

US DOT 49 CFR information:
This product is not regulated according to US Regulations.

SECTION 15 - REGULATORY INFORMATION

In Canada:

WHMIS information:
This product is controlled by WHMIS. It does meet the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

CEPA information:
Ingredients are listed on the DSL/NDSL.

In U.S.A.:

TSCA information:
All ingredients are listed on the TSCA inventory.

DOT/CERCLA Reportable Quantity (RQ): None Reportable

SARA TITLE III:
Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to the TSCA notification requirements, since it does not contain Toxic Chemical constituents above the minimum levels.

California Proposition 65:
This product does contain chemicals known to the State of California to cause cancer or reproductive toxicity.

New Jersey Hazardous Substance Lists:
This product contains the following listed hazardous substances above threshold percentages:

Chemical Name	CAS #
Silica, quartz	14808-60-7

SECTION 16 - OTHER INFORMATION

Prepared by:	Telephone number:	Preparation date:
Ardex Engineered Cements	(724) 203-5000	December 17, 2007

References:

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2004.
2. International Agency for Research on Cancer Monographs, 2004.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2004 (Chempendium and RTECs).
4. Material Safety Data Sheet from manufacturer.
5. US EPA Title III List of Lists – October 2001 version.
6. California Proposition 65 List – December 7, 2004 version.

Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists
CAS = Chemical Abstract Service
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR = Code of Federal Regulations (Transportation in U.S.A.)
DOT = Department of Transport (U.S.A.)
DSL = Domestic Substance List
IARC = International Agency for Research on Cancer
N/Av = Not available.
N/Ap = Not applicable
NIOSH = National Institute for Occupational Safety and Health
NTP = National Toxicology Program (U.S.A.)
OSHA = Occupational Safety and Health Administration (U.S.A.)
PEL = Permissible Exposure Limit
RCRA = Resource Conservation and Recovery Act
SARA = Superfund Amendments & Reauthorization Act
STEL = Short-term Exposure Limit
TLV = Threshold Limit Value
TSCA = Toxic Substances Control Act
TWA = Time Weighted Average
WHMIS = Workplace Hazardous Materials Information System

The information presented herein is supplied as a guide to those who handle or use this product and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all - inclusive. The manner and conditions of use and handling may involve other and additional considerations. Safe work practices must be employed when working with any materials. It is important that the end user makes a determination regarding the adequacy of the safety procedures employed during the use of this product.

No warranty of any kind is given or implied. Ardex Engineered Cements will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained herein. This Material Safety Data Sheet is valid for three (3) years.

End of the MSDS