MATERIAL SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Manufacturer's name and address:

ARDEX Engineered Cements
400 Ardex Park Dr.
Aliquippa, PA 15001 USA

Supplier's name and address:

Refer to Manufacturer

Information Telephone No.	:	(724) 203-5000			
Website Address	:	http://www.ardexamericas.com			
24 Hr Emergency Telephone #	:	**CHEM-TEL: 1-800255-3924 OR 1-813-248-0585 (call collect)**			
Product Identifier	:	**ARDEX Feather Finish®**			
Chemical Name	:	N/Ap	Chemical Family	:	Mixture
Chemical Formula`	:	N/Ap	Trade Name/Synonyms	:	ARDEX Feather Finish
Molecular Weight	:	N/Ap	Material Use	:	Cement-based finishing underlayment

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe

Health: *3 *Flammability* 0 *Reactivity* 0

SECTION 2 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW : **DANGER! Corrosive. Causes eye burns. May cause skin burns. Contact with wet material or moist areas of the skin causes skin burns. Symptoms may be delayed. May cause respiratory irritation. Contains material that could cause lung damage. Possible cancer hazard – contains material which may cause cancer.**

Material Description : Gray powder. No odor.

OSHA Classification : This material is classified as hazardous under OHSA regulations (29 CFR Part 1910.1200).

WHMIS Classification : Class D2A (Materials Causing Other Toxic Effects, Very Toxic Material); Class E (Corrosive Material)

POTENTIAL HEALTH EFFECTS

Target organs : Lungs; Eyes; Skin.

Routes of Exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin and Eyes:* Yes *Ingestion:* YES

Signs and symptoms of short-term (acute) exposure

Inhalation : May cause severe irritation to the nose, throat, and respiratory tract. Symptoms may include coughing, shortness of breath, wheezing, and reduced lung function.

Skin : Direct contact may cause mild to severe irritation with possible burns. Contact with wet material or moist areas of the skin, causes skin burns. Skin thickening, cracking, or fissuring may also occur. Symptoms may be delayed.

Eyes : Direct contact may strongly irritate or burn the eyes. Could cause blindness.

Ingestion : May cause severe irritation to the mouth, throat, and stomach. Symptoms may include burning pain, vomiting, and diarrhea.

Effects of long-term (chronic) exposure

: Prolonged inhalation may cause adverse lung effects with symptoms including coughing, mucous production, and difficulty breathing. Repeated or prolonged inhalation if fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease). Symptoms may include coughing, shortness of breath, and eventually severe respiratory impairment.

Conditions aggravated by overexposure

: Pre-existing skin, eye, and respiratory disorders.

Carcinogenic status : Cancer hazard. See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects : See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 – COMPOSTION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)	ACGIH TLV		OSHA PEL	
			TWA	STEL	PEL	STEL
Calcium Carbonate	1317-65-3	30.00 – 60.00	TLV Withdrawn In 2007	N/Av	15 mg/m^3 (Total dust); 5 mg/m^3 (respirable)	N/Av
Portland Cement	65997-15-1	3.00 – 7.00	1 mg/m^3 (respirable, with no asbestos and < 1% crystalline silica)	N/Av	15 mg/m^3 (Total dust); 5 mg/m^3 (respirable)	N/Av
Vinyl acetate copolymer	24937-78-8	10.00 – 30.00	N/Av	N/Av	N/Av	N/Av
Calcium sulfate	7778-18-9	7.00 – 13.00	* 10 mg/m^3 (inhalable)	N/Av	* 15 mg/m^3 (Total dust); 5 mg/m^3 (respirable)	N/Av
Cellulose	9004-34-6	1.00 – 5.00	10 mg/m^3	N/Av	15 mg/m^3 (Total dust); 5 mg/m^3 (respirable)	N/Av
Calcium aluminate	65997-16-2	15.00 – 40.00	1 mg/m^3 (as Aluminum metal and insoluble compounds	N/Av	N/Av	N/Av
Crystalline Silica, Quartz**	14808-60-7	0.10 – 1.00	0.025 mg/m^3 (respirable fraction)	N/Av	0.1 mg/m^3 (respirable) (final rule limit)	N/Av

*Note: The OSHA PEL's and ACGIH TLV's listed above with asterisks (*) are for 'Particulates Not Otherwise Specified / Regulated'. ACGIH notes that there is no particulate that does not provoke some response when inhaled in sufficient amounts.

**Note: Crystalline Silica (Quartz) is not intentionally added to this product, but is a naturally occurring component in limestone (Calcium Carbonate).

SECTION 4 – FIRST AID MEASURES

Inhalation : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If not breathing, clear airway and start artificial respiration. Seek immediate medical attention/advice.

Skin contact : Remove/Take off immediately all contaminated clothing. Flush affected skin with gently flowing lukewarm water for at least 20 minutes. Seek immediate medical attention/advice.

Eye contact : Immediately flush eyes thoroughly with running water for at least 20 to 30 minutes. Seek immediate medical attention/advice.

Ingestion : Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting. Have victim drink one to two glasses of water. Seek immediate medical attention/advice.

Notes for Physician : Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Contact with water may cause hydration, and formation of caustic alkaline material.

Flammability classification (OSHA 29 CFR 1910.1200)

: Non-flammable

Flash point	: Not applicable	**Lower flammable limit (% by vol)**	: Not applicable
Flash point method	: Not applicable	**Upper flammable limit (% by vol)**	: Not applicable
Auto-ignition temperature	: N/Av	**Oxidizing properties**	: None
Flame projection length	: Not applicable	**Flashback observed**	: Not applicable

Explosion data: Sensitivity to mechanical impact / static discharge

: Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media : Dry chemical, carbon dioxide and foam. Do not use water. Contact with water may cause hydration, and formation of caustic alkaline material.

Special fire-fighting procedures/equipment

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. After fires have been extinguished, carefully clean all equipment and surfaces exposed to fumes.

Hazardous combustion products : Sulfur oxides; calcium oxide; vinyl acetate; acetic acid; Aldehydes; Carbon oxides.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : Corrosive! Wear chemically resistant personal protective equipment during cleanup. Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment. Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions : Do not allow product to enter waterways. Do not allow material to contaminate ground water system.

Spill response / clean-up : Ventilate area of release. Eliminate all ignition sources. Stop spill or leak at source if safely possible. Contain material, preventing it from entering sewer lines or waterways. Using HEPA vacuum, or other dustless methods, gather up spilled material and place in suitable container for later disposal (see Section 13). Avoid adding water, material becomes alkaline when wet. Notify the appropriate authorities as required.

Prohibited materials : Avoid adding water, material becomes alkaline when wet.

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

US CERCLA Reportable quantity (RQ): None reported.

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures : Corrosive! Wear chemically resistant protective equipment during handling. Use in a well-ventilated area. 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/dust. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid wet or humid conditions. Keep away from acids and incompatibles. Avoid and control operations

which create dust. Keep containers tightly closed when not in use. Wash thoroughly after handling.

Storage requirements : Store in a cool, dry, well-ventilated area. No smoking in the area. Do not store near any incompatible materials (see Section 10). Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Protect against physical damage.

Incompatible materials : See Section 10.

Special packaging materials : Always keep in containers made of the same materials as the supply container.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation and engineering measures: Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection : Respiratory protection is required if the concentrations exceed the TLV. NIOSH recommends the use of half-facepiece particulate respirators with N95 or better filters for airborne exposures to crystalline silica at concentrations less than or equal to 0.5 milligrams per cubic meter of air (mg/m^3). The Occupational Safety and Health Administration (OSHA) also specifies the use of at least a 95-rated filter efficiency [29 Code of Federal Regulations (CFR) 1910.134].

Skin protection : Workers should protect their skin from exposure to both the powder product and the wet concrete. Rubber gloves or rubber-coated/dipped gloves are recommended for handling the powder. Impervious chemical resistant gloves such as nitrile rubber are recommended when working with wet concrete. Advice should be sought from glove suppliers.

Eye / face protection : Chemical goggles must be worn to prevent dusts from entering the eyes.

Other protective equipment : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact. An eyewash station and safety shower should be made available in the immediate working area.

General hygiene considerations : Avoid contact with eyes, skin and clothing. Do not breathe vapors/dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing, and shower with mild soap and water to remove dusts, at end of each work shift.

Permissible exposure levels : For individual ingredient exposure levels, see Section 3.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	fine powder	**Appearance**	Gray powder
Odor	No odor	**Odor threshold**	N/Av
pH	10 – 12	**Specific gravity**	2.7 – 3.1
Boiling point	N/Av	**Coefficient of water/oil distribution**	N/Av
Melting/Freezing point	N/Av	**Solubility in water**	< 55 g/L
Vapor pressure (mm Hg @ 20°C / 68°F)	N/Av	**Evaporation rate (*n*-Butyl acetate = 1)**	N/Av
Vapor density (Air = 1)	N/Av	**Volatiles (% by weight)**	N/Av
Volatile organic compounds (VOCs)	0 g/L	**General information**	N/Av
Particle size	N/Av	**Flammability properties**	See Section 5.

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Stability and reactivity : Stable under the recommended storage and handling conditions prescribed. Contact with water may cause hydration and formation of caustic calcium hydroxide.

Hazardous polymerization : Hazardous polymerization does not occur.

Conditions to avoid : Avoid wet or humid conditions. Extreme heat.

Materials to avoid and incompatability

: Acids; Oxidizing agents; Ammonium salts; Water. Avoid contact with aluminum.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicological data : There are no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC50 (4 hr) Inhalation, rat	LD50 Oral, rat	LD50 Dermal, rabbit
Calcium aluminate	N/Av	N/Av	N/Av
Calcium carbonate	N/Av	6450 mg/kg	N/Av
Portland cement	N/Av	N/Av	N/Av
Vinyl acetate copolymer	N/Av	> 1000 mg/kg	N/Av
Calcium sulfate	N/Av	> 3000 mg/kg	NAv
Cellulose	> 5800 mg/m^3	> 2000 mg/kg	> 2000 mg/kg
Crystalline Silica, Quartz	N/Av	N/Av	N/Av

Carcinogenic status : This product contains Crystalline silica - Quartz. Crystalline silica - Quartz is classified as carcinogenic by IARC (Group 1), ACGIH (Group A2), NTP (Group 1) and OSHA (OSHA Select carcinogen).

Reproductive effects : None known.

Teratogenicity/Embryotoxicity : None known.

Mutagenicity : None known.

Epidemiology : Not available.

Sensitization to material : This product does not contain any components known to cause respiratory sensitization. Portland Cement may cause an allergic skin reaction, in hypersensitive individuals possibly due to trace amounts of chromium.

Synergistic materials : N/Av

Irritancy : Moderately irritating to corrosive.

Other important hazards : See Section 2 for additional information.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental effects : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Important environmental characteristics

: N/Av

Ecotoxicological : No data is available on the product itself.

SECTION 13 – DISPOSAL CONSIDERATION

Handling for disposal : Handle waste according to recommendations in Section 7.

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

RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14 – TRANSPORTATION INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	**None**	**Not regulated**	**Not Regulated**	**None**	
TDG Additional Information	**None**				
49 CFR/DOT	**None**	**Not regulated**	**Not Regulated**	**None**	
49 CFR/DOT Additional Information	**None**				

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

Canadian WHMIS Classification: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR). Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

U.S. State Right To Know Laws

California Proposition 65: Warning! This product contains a chemical known to the State of California to cause cancer and/or reproductive harm.

Other State Right to Know Laws: Portland Cement [CAS# 65997-15-1] (MA, MN, NJ, PA, RI); Calcium Sulfate [CAS# 7778-18-9] (MA, MN, NJ, PA); Limestone [CAS# 1317-65-3] (MA, MN, NJ, PA, RI); Crystalline Silica [CAS# 14808-60-7] (MA, MN, NJ, PA, RI).

SECTION 16 – OTHER INFORMATION

Legend **:** ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation

DSL: Domestic Substances List
EPA: Environmental Protection Agency
IARC: International Agency for Research on Cancer
Inh: Inhalation
N/Av: Not Available
N/Ap: Not Applicable
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References :

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2012.
2. International Agency for Research on Cancer Monographs, searched 2012.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2012 (Chempendium and RTECs).
4. Material Safety Data Sheet from manufacturer.
5. US EPA Title III List of Lists - July 2012 version.
6. California Proposition 65 List - November 02, 2012 version

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