

SAFETY DATA SHEET

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Identifier : **ARDEX FORTI FINISH™**
Product ID No. : 70012181
Trade Name/Synonyms : FORTI FINISH
Material Use : High Strength, Self-Drying Finishing Underlayment
Uses Advised Against : Use only as recommended in the product's Technical Data Sheet.

Manufacturer's name and address:



ARDEX L.P.
400 Ardex Park Dr.
Aliquippa, PA 15001 USA

Information Telephone No. : (888) 512-7339 or (724) 203-5000
Website Address : <http://www.ardexamericas.com>
24 Hr Emergency Telephone # : CHEM-TEL: 1-800-255-3924 OR 1-813-248-0585 (call collect)

SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification per 29 CFR 1910.1200 (OSHA HCS 2012) and HPR (WHMIS 2015)

Skin corrosion/irritation, Category 1
Serious eye damage/eye irritation, Category 1
Carcinogenicity, Category 1
Specific target organ toxicity, repeated exposure, Category 1.

GHS Pictograms



Signal Word

Danger

Hazard Statements

Causes severe skin burns and eye damage.
May cause cancer by inhalation.
Causes damage to lungs through prolonged or repeated inhalation.

Precautionary Statements

Obtain special instructions before use. (See Section 7.) Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only in a well-ventilated area. Wash hands and exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection. Wash contaminated clothing before reuse. Keep container tightly closed. Protect from sunlight. Store locked up. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Classified

None

% With Unknown Acute Toxicity : Up to 44% by weight of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Calcium aluminate cement	65997-16-2	30 – 60
Limestone	1317-65-3	10 – 30
Portland cement	65997-15-1	5 – 10
Calcium sulfate	7778-18-9	5 – 10
VA/E copolymer	24937-78-8	1 – 5
Crystalline silica, quartz**	14808-60-7	0.1 – 1.0

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

**Note: Crystalline Silica (Quartz) is not intentionally added to this product but is a naturally occurring component in Limestone (Calcium Carbonate). Exposure monitoring tests using typical occupational procedures found no measurable respirable crystalline silica in the breathing space of a worker mixing this product during an 8-hour work shift.

SECTION 4 – FIRST AID MEASURES

- General** : Call a Poison Center or doctor if you feel unwell.
- Inhalation** : Remove person to fresh air and keep at rest in a position comfortable for breathing. Get medical attention.
- Skin contact** : Remove contaminated clothing. Flush affected skin with water. If irritation or rash occurs, seek medical attention/advice.
- Eye contact** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
- Ingestion** : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
- Notes for Physician** : Treat symptomatically.

Signs and symptoms of short-term (acute) exposure

- Inhalation* : Symptoms may include coughing and shortness of breath.
- Skin* : Symptoms may include redness and itching. Contact with wet material, or moist areas of skin, causes skin burns. Skin thickening, cracking, or fissuring may occur.
- Eyes* : Direct contact may strongly irritate or burn the eyes. Could cause blindness.
- Ingestion* : Symptoms such as gastric pain, nausea, vomiting, and diarrhea may occur.

Effects of long-term (chronic) exposure

- : Prolonged inhalation may cause adverse lung effects with symptoms including coughing and shortness of breath. Repeated or prolonged inhalation of fine dusts may cause severe scarring of the lungs, a disease called silicosis, and alveolar proteinosis (lower lung disease). Silicosis has been linked to kidney damage and autoimmune disorders.

Indication of need for immediate medical attention or special treatment

- : Difficulty breathing persists after removing the person to fresh air.
Any burn to the skin.
Any exposure to the eye which causes irritation.
Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide, dry chemical powder, foam.
- Unsuitable extinguishing media** : Water. Water will damage the paper bags. Contact of the product with water will form caustic alkaline material.

Hazardous combustion products : Calcium oxide, calcium oxalate, acetic acid, formic acid, formaldehydes, carbon monoxide, and carbon dioxide.

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.

Environmental precautions : Do not allow material to enter drains or contaminate ground water system.

Fire hazards/conditions of flammability

: Product is not flammable. Packaging is paper and plastic.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not flammable

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : Restrict access to area until completion of clean-up. All persons dealing with clean-up should wear the appropriate chemically protective equipment.

Protective equipment : Refer to Section 8 for additional information on acceptable personal protective equipment.

Emergency Procedures : This product does not contain chemicals requiring EPA notification for spills. In case of a chemical spill, call the emergency telephone number listed in Section 1. US CERCLA Reportable quantity (RQ): None reported.

Methods and materials for containment and cleaning up

: Ventilate area of release. 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). Notify the appropriate authorities as required.

Prohibited materials : Avoid adding water. This product becomes alkaline when wet.

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

Reference to other sections : See Section 13 for disposal information.

SECTION 7 – HANDLING AND STORAGE

Special instructions : Use ventilation to control levels of dust in the work area.

Safe handling procedures : Wear chemically resistant protective equipment during handling. Use in a well-ventilated area. Training the workers on the potential health hazards associated with product dust is important. Secondary inhalation exposures could occur when cleaning equipment, or when removing or laundering the clothing. Do not breathe dust. Avoid and control operations which create dust. Keep containers tightly closed when not in use. Wash hands and exposed skin thoroughly after handling.

Storage requirements : Store in a cool, dry place. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Store locked up. Keep out of reach of children.

Incompatible materials : Keep away from strong acids and oxidizing agents. (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

Permissible Exposure Limits : No exposure limits have been established for the product itself. Below are exposure limits for the components in the product.

Threshold Limit Values for the Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Calcium aluminate cement	65997-16-2	1 mg/m ³ (as Aluminum metal and insoluble compounds)	N/Av	N/Av	N/Av
Limestone	1317-65-3	TLV withdrawn in 2007	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable)	N/Av
Portland cement	65997-15-1	1 mg/m ³ (respirable, no asbestos and < 1% crystalline silica)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable)	N/Av
Calcium sulfate	7778-18-9	10 mg/m ³ (inhalable)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable)	N/Av
VA/E copolymer	24937-78-8	10 mg/m ³ (total dust); 3 mg/m ³ (respirable)	N/Av	15 mg/m ³ (total dust); 5 mg/m ³ (respirable)	N/Av
Crystalline silica, quartz	14808-60-7	0.025 mg/m ³ (respirable fraction)	N/Av	0.05 mg/m ³ (respirable) (final rule limit)	N/Av

Engineering Controls : Use general ventilation in combination with local exhaust ventilation with HEPA filtration to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

Personal Protective Equipment

- Eye / face protection** : Safety glasses or chemical goggles must be worn when using this product. Additionally, a face shield is recommended if splashing is possible.
- Skin protection** : Wear chemical resistant protective clothing and impervious gloves. Glove materials such as nitrile rubber or Viton (fluorocarbon rubber) are recommended.
- Body protection** : Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.
- Respiratory protection** : If work process generates excessive quantities of dust, or exposures in excess of any PEL, wear an appropriate particulate respirator (dust mask). Mask should be rated at N-95 or higher.

Site safety equipment : 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 dust. Do not eat, drink or smoke when using this product. Clean all equipment and clothing at end of each work shift. This product contains crystalline silica. Comply with all requirements within OSHA Standard 29 CFR § 1926.1153 - Respirable crystalline silica for Construction.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|-----------------------|-----------|--|---------------|
| Physical state | : solid | 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		
Particle size	: N/Av	Flammability classification	: Not flammable
Flash point	: N/Av	Lower flammable limit (% by vol)	: Not available
Flash point method	: N/Av	Upper flammable limit (% by vol)	: Not available
Auto-ignition temperature	: N/Av	Decomposition temperature	: Not available
Viscosity	: Not available	Oxidizing properties	: Not available

Explosion data: Sensitivity to mechanical impact / static discharge
: Not expected to be sensitive to mechanical impact or static discharge.

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Reactivity	: Contact with water may cause hydration and formation of caustic calcium hydroxide.
Stability	: Stable under the recommended storage and handling conditions prescribed.
Hazardous reactions	: Hazardous polymerization does not occur.
Conditions to avoid	: High temperatures.
Materials to avoid and incompatibility	: Oxidizing agents. Strong acids.
Hazardous decomposition products	: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of exposure	: <i>Inhalation</i> : YES <i>Skin Absorption</i> : NO <i>Skin and Eyes</i> : YES <i>Ingestion</i> : YES
Symptoms of exposure	: See Section 4.
Calculated Acute Toxicity Estimates for the Product	
<i>Inhalation</i>	: Not Available
<i>Oral</i>	: Not Available
<i>Dermal</i>	: Not Available
Toxicological data	: There are insufficient data for estimating the product's acute toxicity. See below for individual ingredient acute toxicity data.

Acute Toxicity Parameters for the Ingredients	CAS #	LC50, Inhalation mg/L, Rat, 4 hr	LD50, Oral mg/kg, rat	LD50, Dermal mg/kg, rabbit
Calcium aluminat cement	65997-16-2	N/Av	N/Av	N/Av
Limestone	1317-65-3	N/Av	6450	N/Av
Portland cement	65997-15-1	N/Av	N/Av	N/Av
Calcium sulfate	7778-18-9	N/Av	> 3,000	N/Av
VA/E copolymer	24937-78-8	N/Av	> 1,000	N/Av
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	N/Av

Skin corrosion or irritation	: Causes skin corrosion when wet.
Serious eye damage / eye irritation	: Causes eye burns. May cause blindness.
Respiratory or skin sensitization	: Portland cement may cause an allergic skin reaction, in hypersensitive individuals possibly due to trace amounts of chromium.
Germ cell mutagenicity	: None known.
Carcinogenic status	: This product contains Crystalline silica. Crystalline silica (respirable size) is classified as carcinogenic by inhalation by IARC (Group 1), ACGIH (Group A2),

NTP (Group 1) and OSHA (OSHA Select carcinogen). No other components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive toxicity : None known.

Specific Target Organ Toxicity, Single Exposure

: May cause respiratory irritation.

Specific Target Organ Toxicity, Repeated Exposure

: May cause lung damage (silicosis) upon repeated or prolonged exposure. Silicosis may be accompanied by complications such as kidney damage and autoimmune disorders.

Aspiration hazard : None known.

Additional information : N/Av

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.

Ecotoxicological : No data is available on the product itself.

Ecotoxicity : No data available.

Biodegradability : No data available.

Bioaccumulative potential : No data available.

Mobility in soil : No data available.

PBT and vPvB assessment : No data available.

Other adverse effects : No data available.

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.

Packaging : Handle contaminated packaging in the same manner as the product.

RCRA : 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	This product is not regulated according to Canadian TDG regulations.	None	None	None
TDG Additional Information	None				
49 CFR/DOT	None	This product is not regulated according to US DOT regulations.	None	None	None
49 CFR/DOT Additional Information	None				

Not regulated by IMDG.

Not regulated by IATA.

Not a Marine Pollutant.

SECTION 15 – REGULATORY INFORMATION

Canadian Information:

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all information required by the HPR.

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

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. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes:

- Skin corrosion/irritation, Category 1
- Serious eye damage/eye irritation, Category 1
- Carcinogenicity, Category 1
- Specific target organ toxicity, repeated exposure, Category 1.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The threshold for this product is 10,000 pounds.

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: See product label for information regarding Proposition 65.

Other State Right to Know Laws:

Ingredient on State RTK Law?	CAS #	CA	MA	MN	NJ	NY	PA	RI
Calcium aluminate cement	65997-16-2	No	No	No	No	No	No	No
Limestone	1317-65-3	No	Yes	No	Yes	No	Yes	Yes
Portland cement	65997-15-1	No	Yes	No	Yes	No	Yes	Yes
Calcium sulfate	7778-18-9	No	Yes	No	Yes	No	Yes	No
Crystalline silica, quartz	14808-60-7	No	Yes	Yes	Yes	No	Yes	Yes

SECTION 16 – OTHER INFORMATION

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
*Health: *3 Flammability 0 Physical Hazard 1 PPE:*
 Gloves, safety glasses

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
 GHS: Globally Harmonized System
 HEPA: High Efficiency Particulate Air [filter]
 HMIS: Hazardous Materials Information System
 HPR: Hazardous Products Regulations
 IARC: International Agency for Research on Cancer
 Inh: Inhalation
 mg/L: milligrams per Liter (of air)
 mg/kg: milligrams per Kilogram (of body mass)
 N/Av: Not Available
 N/Ap: Not Applicable

NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative, and/or Toxic
PEL: Permissible exposure limit
PPE: Personal Protection Equipment
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
vPvB: (very) Persistent, (very) Bioaccumulative and/or Toxic
WHMIS: Workplace Hazardous Materials Identification System

Disclaimer of Liability

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 determines the adequacy of the safety procedures employed during the use of this product. No warranty of any kind is given or implied. ARDEX L.P. 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.

Prepared By:
ARDEX L.P.
400 Ardex Park Drive
Aliquippa, PA, U.S.A.
15001

(724) 203-5000
Visit our Website: <http://www.ardexamericas.com>

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