

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: 1-800-255-3924 OR 1-813-248-0585 (call collect)
Product Identifier : **ARDEX PANDOMO ES Resin (Part A)**
Product Code : 1116208A
Chemical Family : Mixture
Trade Name/Synonyms : ARDEX PANDOMO ES Resin
Material Use : Epoxy resin for floor coating system
Uses Advised Against : Do not heat or spray this product.

SECTION 2 – HAZARDS IDENTIFICATION

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

: Sensitization, dermal; Category 1
Serious eye damage/eye irritation; Category 2A
Skin corrosion/irritation; Category 2
Reproductive toxicity; Category 2
Specific target organ toxicity, single exposure; Narcotic effects; Category 3
Specific target organ toxicity, repeated exposure; Category 1

GHS Pictograms :



Signal Word : Danger

Hazard Statements : May cause an allergic skin reaction.
Causes serious eye irritation.
Causes skin irritation.
Suspected of damaging fertility or the unborn child.
May cause drowsiness or dizziness.
Causes damage to organs <central nervous system, liver> through prolonged or repeated exposure.

Precautionary Statements : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapours. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands and exposed skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Contaminated work clothing should be washed separately from other clothing/fabrics. Wash contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Protect from freezing. Dispose of contents / container in accordance with federal, state, and local laws. Do not allow product to enter drains.

Hazards Not Otherwise Identified : None

Unknown Acute Toxicity Content : Less than 1% of this product consists of ingredients with unknown acute toxicity.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS #	% (by weight)
Water	7732-18-5	30 – 60
Phenol-formaldehyde polymer	28064-14-4	10 – 30
2,2-bis(4-hydroxyphenyl)propane, polymer with (chloromethyl)oxirane	25068-38-6	10 – 30
Epoxy resin	25085-99-8	10 – 30
1-Methoxy-2-propanol	107-98-2	10 – 30
2-Butoxyethanol	111-76-2	0.1 – 1.0
2-Methoxy-1-methylethyl acetate	108-65-6	0.1 – 1.0
Naphtha (petroleum),hydrodesulfurized heavy	64742-82-1	0.1 – 1.0
2-Ethyl-1-Hexanol	104-76-7	0.1 – 1.0

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

SECTION 4 – FIRST AID MEASURES

- General** : Call a Poison Center or doctor if you feel unwell.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: call a doctor/physician.
- 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** : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/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* : Inhalation of vapors may cause mild irritation of the respiratory system. Symptoms may include coughing and shortness of breath.
 - Skin* : Causes irritation. Symptoms may include redness and itching. Prolonged or repeated skin contact may cause an allergic skin reaction.
 - Eyes* : Causes irritation. Symptoms may include redness, itching or pain.
 - Ingestion* : May cause stomach pain with nausea and vomiting.

Effects of long-term (chronic) exposure

- : Prolonged inhalation may cause adverse lung effects with symptoms including coughing and shortness of breath. Some individuals may experience a sensitization reaction of the skin after an initial exposure. Subsequent exposures may cause a hypersensitive skin reaction (rash, swelling).

Indication of need for immediate medical attention or special treatment

- : Difficulty breathing persists after removing the person to fresh air.
- A skin rash associated with exposure to this product.
- Any exposure to the eye which causes irritation.
- Ingestion.

SECTION 5 – FIRE FIGHTING MEASURES

- Suitable extinguishing media** : Carbon dioxide, dry chemical powder, foam, alcohol foam or water fog.
- Unsuitable extinguishing media** : Water jet may spread the burning material.

Hazardous combustion products : Carbon monoxide, carbon dioxide, as well as other toxic vapors and gases which are common to thermal degradation of organic compounds.

Special fire-fighting procedures/equipment

: Toxic fumes will be evolved when this material is involved in a fire. 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.

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

Fire hazards/conditions of flammability

: Not flammable under normal conditions of use. This product will ignite after all water is boiled off. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200, WHMIS 2015)

: Not flammable.

NFPA Rating

: 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe

Health: 2 Flammability 1 Instability 0 Special Hazards: None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions : 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.

Protective equipment : Refer to Section 8 on this Safety Data Sheet, EXPOSURE CONTROLS / PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Emergency 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). Outside of the U.S. call the emergency number listed in Section 1.

US CERCLA Reportable quantity (RQ): None reported.

Spill response / clean-up : Ventilate area of release. Stop spill or leak at source if safely possible. Contain product with inert absorbent material, preventing it from entering sewer lines or waterways. Gather up spilled material and place in suitable container for later disposal. Notify the appropriate authorities as required.

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

Disposal of spilled material : See Section 13.

SECTION 7 – HANDLING AND STORAGE

Safe handling procedures : Observe good hygiene standards. Do not eat, drink or smoke in the work area. Avoid contact with skin and eyes. Avoid repeated or prolonged skin contact. Wash thoroughly with soap and warm water after handling. Do not breathe vapors or mists of this product. Wear protective clothing to prevent skin contact. Promptly remove any clothing that becomes contaminated. Contaminated work clothing should not be allowed out of the workplace. Clean contaminated clothing before reuse. Contaminated work clothing should be washed separately from other clothing/fabrics. Keep container tightly closed. Use only with adequate ventilation.

Storage requirements : Store in a cool, dry, well-ventilated area. Store away from heat and open flame. Avoid storing in direct sunlight. Store in original container. Keep tightly closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning.

Incompatible materials : Strong oxidizing agents.

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

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits : No exposure limits have been established for the product. Below are exposure limits for the ingredients in the product.

Threshold Limit Values for the Ingredients	CAS #	ACGIH TLV		OSHA PEL	
		TWA	STEL	PEL	STEL
Water	7732-18-5	N/Av	N/Av	N/Av	N/Av
Phenol-formaldehyde polymer	28064-14-4	N/Av	N/Av	N/Av	N/Av
2,2-bis(4-hydroxyphenyl)propane, polymer with (chloromethyl)oxirane	25068-38-6	N/Av	N/Av	N/Av	N/Av
Epoxy resin	25085-99-8	N/Av	N/Av	N/Av	N/Av
1-Methoxy-2-propanol	107-98-2	100 ppm	150 ppm	N/Av	N/Av
2-Butoxyethanol	111-76-2	20 ppm	N/Av	50 ppm (skin)	N/Av
2-Methoxy-1-methylethyl acetate	108-65-6	N/Av	N/Av	50 ppm (WEEL)	N/Av
Naphtha (petroleum),hydrodesulfurized heavy	64742-82-1	N/Av	N/Av	N/Av	N/Av
2-Ethyl-1-Hexanol	104-76-7	N/Av	N/Av	N/Av	N/Av

- Engineering measures** : Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits. Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.
- Eye / face protection** : Safety glasses or chemical goggles must be worn when using this product. A face shield is recommended if splashing is possible.
- Skin protection** : Wear chemical resistant protective clothing and impervious gloves. 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 vapor or dust, or exposures in excess of any PEL, wear an appropriate NIOSH approved organic vapor respirator.
- Site safety equipment** : An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene precautions** : 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 at end of each work shift.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid	Appearance	: Off-white, opaque liquid
Odor	: Characteristic	Odor threshold	: N/Av
pH	: N/Av	Specific gravity	: 1.0
Boiling point	: 212°F (100°C)	Coefficient of water/oil distribution	: N/Av
Melting/Freezing point	: N/Av	Solubility in water	: Partly soluble
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)	: 243 g/L, A+B, per ASTM D2369		
Decomposition temperature	: N/Av	Flammable Classification	: Not Flammable
Flash point	: >200°F (>93.3°C)	Lower flammable limit (% by vol)	: Not available

Flash point method : Setaflash closed **Upper flammable limit (% by vol)** : Not available
Auto-ignition temperature : N/Av **Oxidizing properties** : None
Flame projection length : Not available **Flashback observed** : Not available
Explosion data: Sensitivity to mechanical impact / static discharge
: Not expected to be sensitive to mechanical impact or static discharge.
Viscosity : Not available

SECTION 10 – REACTIVITY AND STABILITY INFORMATION

Reactivity : Product reacts with amines to form polymers. Heat is evolved by this reaction.
Stability and reactivity : Stable under the recommended storage and handling conditions prescribed.
Hazardous polymerization : When handled according to recommendations, hazardous polymerization does not occur. There is a potential risk of very hot temperatures if this product is mixed with amines (epoxy hardeners) in uncontrolled amounts. Always follow directions found in the product's Technical Data Sheet.
Conditions to avoid : Avoid prolonged exposure to heat.
Materials to avoid and incompatibility
: Oxidizing agents, mineral acids.
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION

Routes of Exposure : *Inhalation:* YES *Skin Absorption:* NO *Skin and Eyes:* Yes *Ingestion:* YES
Signs and symptoms of short-term (acute) exposure
: See Section 4.
Signs and symptoms of long-term (chronic) exposure
: See Section 4.
Calculated Acute Toxicity Estimates for the Product
Inhalation : > 30 mg/L
Oral : > 5,000 mg/kg
Dermal : > 3,000 mg/kg
Toxicological data : See below for individual ingredient acute toxicity data.

Ingredients	CAS No.	LC50 (4 hr) Inhalation, rat, mg/L	LD50	
			Oral, rat, mg/kg	Dermal, rabbit, mg/kg
Water	7732-18-5	N/Av	N/Av	N/Av
Phenol-formaldehyde polymer	28064-14-4	N/Av	> 5000	> 2000
2,2-bis(4-hydroxyphenyl)propane, polymer with (chloromethyl)oxirane	25068-38-6	N/Av	11400	> 23,500
Epoxy resin	25085-99-8	N/Av	> 15000	> 23000
1-Methoxy-2-propanol	107-98-2	41.2	5200	13000
2-Butoxyethanol	111-76-2	450 ppm	470	220
2-Methoxy-1-methylethyl acetate	108-65-6	N/Av	8532	> 5000
Naphtha (petroleum),hydrodesulfurized heavy	64742-82-1	> 5	> 5 000	> 2 000
2-Ethyl-1-Hexanol	104-76-7	1.4	2 840	> 2 000

Skin corrosion/irritation : May cause irritation.
Serious eye damage/eye irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Contains multiple components which are known to cause skin sensitization reactions. Does not contain known respiratory sensitizers.
Germ cell mutagenicity : None known.
Carcinogenic status : No components present at 0.1% or greater are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive toxicity : 1-Methoxy-2-propanol has been reported to be toxic to fetuses in laboratory animals.

Specific Target Organ Toxicity, Single Exposure

: The following components are known to cause Central Nervous System Effects (e.g. dizziness, drowsiness, headaches): 1-Methoxy-2-propanol; 2-Butoxyethanol; 2-Methoxy-1-methylethyl acetate; and 2-Methoxy-1-methylethyl acetate.

Specific Target Organ Toxicity, Repeated Exposure

: 1-Methoxy-2-propanol may harm the liver after repeated exposure.

Aspiration hazard

: None known.

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

: Not available.

Ecotoxicological

: Not available.

Persistence and degradability

: Not available.

Bioaccumulative potential

: Not Available.

Mobility in the soil

: Not Available

PBT and vPvB assessment

: Not Available

Other adverse effects

: Not Available



SECTION 13 – DISPOSAL CONSIDERATION

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

Methods of disposal : Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA. You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. 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	UN 3082	Environmentally hazardous substance, liquid, n.o.s. (Contains:Bisphenol A-Epichlorohydrin polymer; Phenol, 2,2'-methylenebis-, polymer with (chloromethyl)oxirane)	9	III	
TDG Additional Information	When in individual containers of less than the Product RQ, this material ships as non-regulated.				
49 CFR/DOT	UN 3082	Environmentally hazardous substance, liquid, n.o.s. (Contains:Bisphenol A-Epichlorohydrin polymer; Phenol, 2,2'-methylenebis-, polymer with (chloromethyl)oxirane)	9	III	
49 CFR/DOT Additional Information	When in individual containers of less than the Product RQ, this material ships as non-regulated.				

Marine Pollutant : No

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 of the 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:
Immediate (Acute) Health Hazard
Chronic Health Hazard.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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 chemicals known to the State of California to cause cancer and reproductive/developmental effects.

Other State Right to Know Laws:

Component	CAS	CA	MA	MN	NJ	NY	PA	RI
1-Methoxy-2-propanol	107-98-2	Yes	Yes	No	Yes	No	Yes	Yes
2-Butoxyethanol	111-76-2	Yes	Yes	Yes	Yes	No	Yes	Yes
Naphtha (petroleum),hydrodesulfurized heavy	64742-82-1	No	No	Yes	No	No	No	No
2-Ethyl-1-Hexanol	104-76-7	No	Yes	No	No	No	Yes	No

SECTION 16 – OTHER INFORMATION

HMIS Rating : * - Chronic Hazard 0 - Minimal 1 – Slight 2 – Moderate 3 – Serious 4 – Severe
Health: *2 Flammability 1 Physical Hazard 0 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
HPA: Hazardous Products Regulations
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

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 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.

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