

HPD UNIQUE IDENTIFIER: 21471
CLASSIFICATION: 23 07 19 HVAC Piping Insulation

PRODUCT DESCRIPTION: Knauf Insulation Earthwool™ 1000° Pipe Insulation is a molded, heavy-density, one-piece insulation made from inorganic glass fiber bonded with ECOSE® Technology. It is produced in 3' lengths with or without a factory-applied jacket (ASJ+). This product is the only formaldehyde free glass mineral fiber pipe insulation available. ASJ+ is the our newest generation of factory applied all-service jacket composed of aluminum foil, reinforced with a glass scrim bonded to a kraft paper interleaving with a polymer outer coating layer leaving no paper exposed. A matching ASJ+ butt strip is furnished in the carton for each section. The jacket is white, and the longitudinal lap of the jacket has a self-sealing adhesive. This product is designed to be cleanable and has vastly improved durability over traditional ASJ.

Section 1: Summary Basic Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format

- Nested Materials Method
- Basic Method

Threshold level

- 100 ppm
- 1,000 ppm
- Per GHS SDS
- Other

Residuals/Impurities

- Considered
- Partially Considered
- Not Considered

All Substances Above the Threshold Indicated Are:

Characterized Yes Ex/SC Yes No
% weight and role provided for all substances.

Threshold Disclosed Per

- Material
- Product

Explanation(s) provided for Residuals/Impurities?
 Yes No

Screened Yes Ex/SC Yes No
All substances screened using Priority Hazard Lists with results disclosed.

Identified Yes Ex/SC Yes No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
GREENSCREEN SCORE | HAZARD TYPE
COMPOSITE PRODUCT INCLUDING THE VAPOR RETARDER FACER [FIBER GLASS, BIOSOLUBLE AND/OR WITH ALKALINE OXIDE AND ALKALI EARTH OXIDE CONTENT ≤18 % BY WEIGHT LT-P1 | MUL GLUCOSE BM-3 KRAFT PAPER NoGS ALUMINUM BM-1 | END | PHY | RES AMMONIUM PHOSPHATE LT-UNK POLYPROPYLENE LT-UNK STYRENE BUTADIENE RUBBER (SBR) LT-UNK ALUMINA TRIHYDRATE (ALUMINA TRIHYDRATE) BM-2 CHLORINATED FLAME RETARDANTS (CFR) NoGS | PBT FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH TALL-OIL FATTY ACIDS AND TRIETHYLENETETRAMINE BM-1 | MUL ANTIMONY TRIOXIDE BM-1 | CAN | MUL SILANE LT-UNK]

Number of Greenscreen BM-4/BM3 contents ... 1

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

There hundreds of pipe insulation sizes. The size used for this analysis is based upon a common pipe insulation, which is the length weighted average size produced. This HPD was done using basic inventory, but 100% of ingredients are disclosed.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: Greenguard Gold
Formaldehyde emissions: Formaldehyde Free Validation
Recycled content: Recycled Content Validation
LCA: EPD

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Material Ingredients Option 1

Third Party Verified?	PREPARER: Self-Prepared VERIFIER:	SCREENING DATE: 2020-08-06 PUBLISHED DATE: 2020-08-18
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Yes
 No

VERIFICATION #:

EXPIRY DATE: 2023-08-06



Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.2, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-2-standard

COMPOSITE PRODUCT INCLUDING THE VAPOR RETARDER FACER

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: Partially

RESIDUALS AND IMPURITIES NOTES: Trace level impurities are founds in all things. We only considered that which we have the control of the manufacturing process, as described in other product notes.

OTHER PRODUCT NOTES: There are potential trace level materials in mined materials used in glass making but the level is diminimis and can vary depending on where materials are mined or sourced.

There are possibly trace level materials in dextrose (corn syrup) from agricultural impacts and perhaps paper for the same reason depending on its source.

FIBER GLASS, BIOSOLUBLE AND/OR WITH ALKALINE OXIDE AND ALKALI EARTH OXIDE CONTENT ≤18 % BY WEIGHT

ID: 65997-17-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-08-06

#: 87.7400 - 87.7400

GS: LT-P1

RC: Both

NANO: No

SUBSTANCE ROLE: Insulator

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

MULTIPLE

ChemSec - SIN List

CMR - Carcinogen, Mutagen &/or Reproductive Toxicant

SUBSTANCE NOTES: This is the glass fiber insulation portion of the product and is validated by the EUCEB exoneration auditing process.

GLUCOSE

ID: 50-99-7

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-08-06

#: 5.2800 - 5.2800

GS: BM-3

RC: None

NANO: No

SUBSTANCE ROLE: Binder

HAZARD TYPE

AGENCY AND LIST TITLES

WARNINGS

None found

No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: The binder adhesive gives the product its brown color

KRAFT PAPER

ID: Not registered

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

HAZARD SCREENING DATE: 2020-08-06

#: 2.7300 - 2.7300

GS: NoGS

RC: None

NANO: No

SUBSTANCE ROLE: Water resistance

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Paper is used to give the vapor retarder strength add flexibility

ALUMINUM

ID: 7429-90-5

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.8900 - 0.8900	GS: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Water resistance
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
ENDOCRINE	TEDX - Potential Endocrine Disruptors	Potential Endocrine Disruptor		
PHYSICAL HAZARD (REACTIVE)	EU - GHS (H-Statements)	H250 - Catches fire spontaneously if exposed to air		
PHYSICAL HAZARD (REACTIVE)	EU - GHS (H-Statements)	H261 - In contact with water releases flammable gases		
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced		

SUBSTANCE NOTES: Part of the vapor retarder laminate. This is an aluminum foil, not unlike that found in households, but perhaps thinner

AMMONIUM PHOSPHATE

ID: 10124-31-9

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.8800 - 0.8800	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Binder
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: Part of the binder adhesive mixture that is cured in the finished product.

POLYPROPYLENE

ID: 9003-07-0

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.6800 - 0.6800	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Water resistance
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS		
None found		No warnings found on HPD Priority Hazard Lists		

SUBSTANCE NOTES: Part of the vapor retarder laminate that adds cleanability to the surface of the vapor retarder.

STYRENE BUTADIENE RUBBER (SBR)

ID: 9003-55-8

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.6800 - 0.6800	GS: LT-UNK	RC: None	NANO: No	SUBSTANCE ROLE: Adhesive

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: This is the adhesive variety that bonds the vapor retarder laminate together.

ALUMINA TRIHYDRATE (ALUMINA TRIHYDRATE)

ID: 21645-51-2

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.3400 - 0.3400	GS: BM-2	RC: None	NANO: No	SUBSTANCE ROLE: Flame retardant

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Part of the vapor retarder facing that enhances the fire performance of this product required to be 25FS/50SD

CHLORINATED FLAME RETARDANTS (CFR)

ID: Not registered

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.3400 - 0.3400	GS: NoGS	RC: None	NANO: No	SUBSTANCE ROLE: Flame retardant

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
PBT	EHP - San Antonio Statement on BFRs & CFRs	Flame retardant substance class of concern for PB&T & long range transport

SUBSTANCE NOTES: Part of the vapor retarder facing that enhances the fire performance of this product required to be 25FS/50SD

FATTY ACIDS, C18-UNSATD., DIMERS, POLYMERS WITH TALL-OIL FATTY ACIDS AND TRIETHYLENETETRAMINE

ID: 68082-29-1

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.2700 - 0.2700	GS: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Adhesive

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MULTIPLE	German FEA - Substances Hazardous to Waters	Class 2 - Hazard to Waters

SUBSTANCE NOTES: Hot Melt adhesive that bonds the vapor retarder to the fiber glass base wool

ANTIMONY TRIOXIDE

ID: 1309-64-4

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library		HAZARD SCREENING DATE: 2020-08-06		
%: 0.1400 - 0.1400	GS: BM-1	RC: None	NANO: No	SUBSTANCE ROLE: Flame retardant

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
CANCER	IARC	Group 2b - Possibly carcinogenic to humans
CANCER	EU - GHS (H-Statements)	H351 - Suspected of causing cancer
MULTIPLE	ChemSec - SIN List	CMR - Carcinogen, Mutagen &/or Reproductive Toxicant
CANCER	MAK	Carcinogen Group 2 - Considered to be carcinogenic for man
CANCER	CA EPA - Prop 65	Carcinogen
CANCER	US NIH - Report on Carcinogens	Reasonably Anticipated to be Human Carcinogen
CANCER	GHS - Japan	Carcinogenicity - Category 1B [H350]

SUBSTANCE NOTES: Part of the vapor retarder that enhances the fire performance of this product required to be 25FS/50SD

SILANE

ID: 7803-62-5

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2020-08-06**

%: **0.0200 - 0.0200** GS: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Adhesive**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

SUBSTANCE NOTES: Additive to promote adhesion of binder to the fiber. This is a cured coating and is not available as a liquid in the product

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

Greenguard Gold

CERTIFYING PARTY: Third Party	ISSUE	EXPIRY	CERTIFIER OR LAB:
APPLICABLE FACILITIES: Shelbyville, IN where the product is manufactured	DATE:	DATE:	Greenguard
CERTIFICATE URL:	2009-		UL
https://spot.ulprospector.com/en/na/BuiltEnvironment/Detail/32846/662416/Atmosphere-Duct-Wrap-with-ECOSE-Technology?st=1&sl=47678479&crit=SW5zdWxhdGlvbiA%2bIEtuYXVmlEluc3VsYXRpb24%3d&ss=2	11-13		
CERTIFICATION AND COMPLIANCE NOTES: Both faced and unfaced products are certified			

FORMALDEHYDE EMISSIONS

Formaldehyde Free Validation

CERTIFYING PARTY: Third Party	ISSUE	EXPIRY	CERTIFIER OR LAB:
APPLICABLE FACILITIES: Shelbyville, Indiana where the product is manufactured	DATE:	DATE:	Greenguard
CERTIFICATE URL:	2011-	2017-	UL
https://spot.ulprospector.com/en/na/BuiltEnvironment/Detail/32846/662416/Atmosphere-Duct-Wrap-with-ECOSE-Technology?st=1&sl=47678479&crit=SW5zdWxhdGlvbiA%2bIEtuYXVmlEluc3VsYXRpb24%3d&ss=2	07-20	11-04	
CERTIFICATION AND COMPLIANCE NOTES:			

RECYCLED CONTENT

Recycled Content Validation

CERTIFYING PARTY: Third Party	ISSUE	EXPIRY	CERTIFIER OR LAB:
APPLICABLE FACILITIES: Shelbyville, IN where the product is manufactured	DATE:	DATE:	UI Enviromental
CERTIFICATE URL:	2012-	2018-	
https://spot.ulprospector.com/en/na/BuiltEnvironment/Detail/32846/656143/Earthwool-1000-Pipe-Insulation-with-ECOSE-Technology?st=1&sl=48156413&crit=SW5zdWxhdGlvbiA%2bIEtuYXVmlEluc3VsYXRpb24%3d&ss=2	08-10	07-20	
CERTIFICATION AND COMPLIANCE NOTES:			

LCA

EPD

CERTIFYING PARTY: Third Party	ISSUE	EXPIRY	CERTIFIER OR LAB:
APPLICABLE FACILITIES: Shelbyville, IN where the product is manufactured	DATE:	DATE:	UL
CERTIFICATE URL:	2014-	2019-	Environmental
https://spot.ulprospector.com/en/na/BuiltEnvironment/Detail/32846/656143/Earthwool-1000-Pipe-Insulation-with-ECOSE-Technology?st=1&sl=45365577&crit=SW5zdWxhdGlvbiA%2bIEtuYXVmlEluc3VsYXRpb24%3d&ss=2	09-12	09-12	
CERTIFICATION AND COMPLIANCE NOTES:			

OTHER

EUCEB biosoluble fiber exoneration

CERTIFYING PARTY: Third Party	ISSUE	EXPIRY	CERTIFIER OR LAB:
APPLICABLE FACILITIES: Shelbyville, IN where the product is manufactured	DATE:	DATE:	http://www.euceb.org/uploads/Modules/Plants/404.pdf
CERTIFICATE URL:	2011-		
http://www.euceb.org/uploads/Modules/Plants/404.pdf	10-11		
CERTIFICATION AND COMPLIANCE NOTES:			

CERTIFYING PARTY: **Self-declared**ISSUE DATE: **2017-09-**

EXPIRY DATE:

CERTIFIER OR LAB: **Declare LBC**APPLICABLE FACILITIES: **Shelbyville, IN where the product is manufactured****01****Program**CERTIFICATE URL: **<https://access.living-future.org/earthwool%C2%AE-pipe-insulation-unfaced>**CERTIFICATION AND COMPLIANCE NOTES: **Unjacketed product only**

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

BUTT STRIP TAPE

HPD URL: **No HPD available**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Tape is made of the same composition as the vapor retarder material noted in the HPD. This material is applied as a joint sealing material at the pipe insulation segments, 3 foot intervals along the length of pipe insulation installed.

Section 5: General Notes

There is no anticipated exposures associated with the ingredients in the laminate. It is not believed that aluminum foil is a hazard and it is not believed that fire retardants bound within the adhesive of the thin vapor retarder have exposure potential.

MANUFACTURER INFORMATION

MANUFACTURER: **Knauf Insulation, Inc.**
ADDRESS: **One Knauf Drive**
Shelbyville IN 46176, USA
WEBSITE: **www.knaufinsulation.us**

CONTACT NAME: **Scott Miller**
TITLE: **Director Sustainability and Product Affairs**
PHONE: **317-512-1016**
EMAIL: **scott.miller@knaufinsulation.com**

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity	LAN Land toxicity	PHY Physical hazard (flammable or reactive)
CAN Cancer	MAM Mammalian/systemic/organ toxicity	REP Reproductive
DEV Developmental toxicity	MUL Multiple	RES Respiratory sensitization
END Endocrine activity	NEU Neurotoxicity	SKI Skin sensitization/irritation/corrosivity
EYE Eye irritation/corrosivity	NF Not found on Priority Hazard Lists	UNK Unknown
GEN Gene mutation	OZO Ozone depletion	
GLO Global warming	PBT Persistent, bioaccumulative, and toxic	

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)	LT-1 List Translator 1 (Likely Benchmark-1)
BM-3 Benchmark 3 (use but still opportunity for improvement)	LT-UNK List Translator Benchmark Unknown (the chemical is present on at least one GreenScreen Specified List, but the information contained within the list did not result in a clear mapping to a LT-1 or LTP1 score.)
BM-2 Benchmark 2 (use but search for safer substitutes)	
BM-1 Benchmark 1 (avoid - chemical of high concern)	
BM-U Benchmark Unspecified (due to insufficient data)	
LT-P1 List Translator Possible 1 (Possible Benchmark-1)	NoGS No GreenScreen.

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.