



Safety Data Sheet

Product Identifier: Mineral Fiber Acoustical Ceiling Tiles – MSDS #2

SDS ID: ARM-004

Section 1 - IDENTIFICATION

Material Name: Mineral Fiber Acoustical Ceiling Tiles and Wall Panels (FireGuard)– MSDS #2

Chemical Family

Man-made vitreous fiber ceiling tile

Recommended Use

acoustical ceiling tiles

Restrictions on Use

None known.

Manufacturer Information

Armstrong World Industries
2500 Columbia Ave.
Lancaster, PA 17603

Phone #: 877-276-7876
Email: techline@armstrong.com
Emergency #: 1-800-255-3924 (ChemTel)
www.armstrong.com

Section 2 - HAZARD(S) IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200.

Carcinogenicity, Category 1A

Specific Target Organ Toxicity - Single Exposure, Category 3 (respiratory system)

Specific Target Organ Toxicity - Repeated Exposure, Category 2 (lungs)

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

Causes skin irritation

Causes eye irritation

May cause cancer

May cause damage to lung damage through prolonged or repeated exposure.

May cause respiratory irritation

Precautionary Statement(s)

Prevention

Panels do not release respirable dust in their installed state and, therefore, do not present any known health hazards when installed and properly maintained.

During the installation be certain that the work site is well ventilated and avoid breathing dust. Avoid contact with skin or eyes. Wear long-sleeve, loose fitting clothes, gloves and eye protection. Cut and trim with knife, razor or hand saw. Do not cut with power equipment unless either a dust collector is used on the equipment or local exhaust is used and a NIOSH approved respirator is worn to prevent overexposure to airborne silica.



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Response

IF exposed or concerned: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
Not Available	Mineral-wool	30-40
1332-58-7	Aluminium hydrous silicate: Kaolin clay	20-30
130885-09-5	Perlite	20-21
Not Available	Newsprint	5-6
9005-25-8	Starch	4-5
14808-60-7	Quartz(inbound)	1-5
1317-65-3	Ground Calcium carbonate	1-2
13463-67-7	Titanium dioxide	0.1-1

Section 4 - FIRST-AID MEASURES

Description of Necessary Measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin Contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

If a large amount is swallowed, get immediate medical attention.

Most Important Symptoms/Effects

Acute

May cause eye irritation, skin irritation. Causes respiratory tract irritation.

Delayed

Cancer hazard, lung damage

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed

Treat symptomatically and supportively.

Section 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide,regular dry chemical,regular foam,water spray

Unsuitable Extinguishing Media

None known.



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Special Hazards Arising from the chemical

Combustible dust. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Toxic fumes may be released in case of fire.

Hazardous Combustion Products

Combustion: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Fire Fighting Measures

Keep away from sources of ignition - No smoking. Avoid inhalation of material or combustion by-products. Move material from fire area if it can be done without risk. Use extinguishing agents appropriate for surrounding fire. Dike for later disposal. Stay upwind and keep out of low areas.

Special Protective Equipment and Precautions for Firefighters

Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing. Firefighters should avoid inhaling any combustion products.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate personal protective equipment. Keep unnecessary people away, isolate hazard area and deny entry. Avoid contact with skin and eyes. Do not breathe dust. If respirable dusts are generated, respiratory protection may be needed. Collect spillage. In case of spillage, stop the flow of material and block any potential routes to water systems. Only personnel trained for the hazards of this material should perform clean up and disposal. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Keep out of water supplies, sewers and soil. In case of spillage, stop the flow of material and block any potential routes to water systems. Collect spilled material using mechanical equipment. Keep unnecessary people away, isolate hazard area and deny entry. Avoid dust generation and accumulation. Keep container tightly closed. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Use non-sparking tools and equipment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Do not handle until all safety precautions have been read and understood. Keep away from all ignition sources. Do not breathe dust. Use methods to minimize dust. Avoid contact with skin and eyes. Do not eat, drink, or smoke when using this product. Always wear recommended personal protective equipment. Wear personal protective clothing and equipment, see Section 8. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Take precautionary measures against static discharge. Dissipate static electricity during transfer by earthing (grounding and bonding) containers and equipment.

Conditions for Safe Storage, including any Incompatibilities

Store in a cool, dry place. Store in a well-ventilated place. Avoid contact with molten material. Keep separated from incompatible substances. Keep container tightly closed. Empty containers may contain product residue. Do not reuse empty containers without commercial cleaning or reconditioning. Store and handle in accordance with all current regulations and standards.



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Incompatibilities: Not available

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Exposure Limits

Follow all applicable exposure limits. Minimize dust generation and accumulation.

Component Exposure Limits

Aluminium hydrous silicate: Kaolin clay (1332-58-7)

ACGIH: 2 mg/m³ TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Mexico 10 mg/m³ TWA LMPE-PPT
20 mg/m³ STEL [LMPE-CT]

Starch (9005-25-8)

ACGIH: 10 mg/m³ TWA

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Quartz(inbound) (14808-60-7)

ACGIH: 0.025 mg/m³ TWA (respirable fraction)

NIOSH: 0.05 mg/m³ TWA (respirable dust)

Mexico 0.1 mg/m³ TWA LMPE-PPT (respirable fraction)

Ground Calcium carbonate (1317-65-3)

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

NIOSH: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable dust)

Mexico 10 mg/m³ TWA LMPE-PPT
20 mg/m³ STEL [LMPE-CT]

Titanium dioxide (13463-67-7)

ACGIH: 10 mg/m³ TWA

OSHA: 15 mg/m³ TWA (total dust)

Mexico 10 mg/m³ TWA LMPE-PPT (as Ti)
20 mg/m³ STEL [LMPE-CT] (as Ti)

Appropriate Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of these product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Use only appropriately classified electrical equipment and powered industrial trucks.

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

Wear splash resistant safety goggles with a faceshield.

Skin Protection

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.



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Respiratory Protection

A NIOSH approved respirator with organic vapor cartridges and N95 filters may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid	Appearance:	fibrous forms
Color:	various colors	Physical Form:	solid
Odor:	None	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	Not available
Decomposition:	Not available	Evaporation Rate:	Not available
OSHA Flammability Class:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	Insoluble
Log KOW:	Not available	Coeff. Water/Oil Dist:	Not available
Auto Ignition:	Not available	Viscosity:	Not available
VOC:	Not available	Volatility:	Not available
Molecular Formula:	Not available		

Section 10 - STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials. Avoid generating dust. Avoid contact with molten material.

Incompatible Materials

Not available

Hazardous Decomposition

Combustion: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Section 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

No information available for the product. See component data.

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Quartz(inbound) (14808-60-7)

Oral LD50 Rat 500 mg/kg

Titanium dioxide (13463-67-7)

Oral LD50 Rat >10000 mg/kg



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Information on Likely Routes of Exposure

Inhalation

Causes respiratory tract irritation.

Ingestion

No information on significant adverse effects.

Skin Contact

Causes skin irritation

Eye Contact

Causes eye irritation

Immediate Effects

eye irritation, skin irritation, respiratory tract irritation

Delayed Effects

cancer hazard, lung damage

Medical Conditions Aggravated by Exposure

No data available.

Irritation/Corrosivity Data

Causes eye irritation, skin irritation, and respiratory tract irritation.

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Germ Cell Mutagenicity

No information available for the product.

Carcinogenicity

Component Carcinogenicity

Aluminium hydrous silicate: Kaolin clay (1332-58-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

DFG: Category 3B (could be carcinogenic for man)

Starch (9005-25-8)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Quartz(inbound) (14808-60-7)

ACGIH: A2 - Suspected Human Carcinogen

IARC: Monograph 100C [2012]; Monograph 68 [1997] (Group 1 (carcinogenic to humans))

NTP: Known Human Carcinogen (respirable size)

DFG: Category 1 (causes cancer in man, alveola fraction)

OSHA: Present (respirable size)

Titanium dioxide (13463-67-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 93 [2010]; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))

DFG: Category 3A (could be carcinogenic for man, inhalable fraction with the exception of ultra small particles)

OSHA: Present

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.



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Specific Target Organ Toxicity - Repeated Exposure

lung damage

Aspiration Hazard

No data available.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

No information available for the product.

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

Persistence and Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility

No information available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations. Regulations vary. Consult local authorities before disposal.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Disposal of Contaminated Packaging

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Section 14 - TRANSPORT INFORMATION

US DOT Information

Not regulated as a hazardous material.

TDG Information

No Classification assigned.

Marine Pollutant

Titanium dioxide (13463-67-7)

IBC Code: Category Z (slurry)

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

Acute Health: Yes Chronic Health: Yes Fire: No Pressure: No Reactive: No



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U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Aluminium hydrous silicate: Kaolin clay	1332-58-7	No	Yes	Yes	Yes	Yes
Starch	9005-25-8	No	Yes	Yes	No	Yes
Quartz(inbound)	14808-60-7	No	Yes	Yes	Yes	Yes
Ground Calcium carbonate	1317-65-3	No	Yes	Yes	Yes	Yes
Titanium dioxide	13463-67-7	No	Yes	Yes	Yes	Yes

Canadian Classification

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

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

Quartz(inbound) (14808-60-7)

1 %

Canada-WHMIS

WHMIS CLASSIFICATION: D2A D2B.

Chemical Inventory Listings

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Aluminium hydrous silicate: Kaolin clay	1332-58-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Perlite	130885-09-5	No	No	No	No	No	No	Yes	Yes	No
Starch	9005-25-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Quartz(inbound)	14808-60-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Ground Calcium carbonate	1317-65-3	Yes	NSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Summary of Changes

New SDS: 06/12/2013

NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe



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Key / Legend

ACGIH = American Conference of Governmental Industrial Hygienists; AU = Australia; BOD = Biochemical Oxygen Demand; C = Celsius; CA = California; CAN = Canada; CAS = Chemical Abstract Service; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; CFR = Code of Federal Regulations; CN = Canada; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Canadian Domestic Substance List; EPA = Environmental Protection Agency; EU = European Union; IARC = International Agency for Research on Cancer; IDL = Ingredient Disclose List; IDLH = Immediately Dangerous to Life and Health; JP = Japan; KR = Korea; LC50 = Lethal Concentration; LD50 = Lethal Dose; LEL = Lower Explosive Limit; LMPE-CT = Mexico STEL equivalent; LMPE-PPT = Mexico TWA equivalent; MSDS = Material Safety Data Sheet; NIOSH = National Institute of Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; NZ = New Zealand; OEL = Occupational Exposure Limit; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit; PH = Philippines; RQ = Reportable Quantity; SARA = Superfund Amendments Act; SDS = Safety Data Sheet; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substance Control Act; TWA = Time Weighted Average; UEL = Upper Explosive Limit; UN = United Nations; US = United State; WHMIS = Workplace Hazardous Materials Information System

Other Information

Reasonable care has been taken in the preparation of this information; however, the manufacturer makes no warranty whatsoever including the warranty of merchantability, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental, consequential, or other such damages resulting from its use or misuse. Disclaimer: Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

End of Sheet ARM-004