AdTech Advanced Material Co., Ltd.

SAFETY DATA SHEET (SDS)

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Compliance Standard: OSHA Hazard Communication Standard (29 CFR 1910.1200) & Regulation (EC) No 1907/2006 (REACH)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Name: Ceramic Fiber Blanket / Ceramic Fiber Paper

Synonyms: Refractory Ceramic Fiber (RCF), High-Temperature Aluminosilicate Insulation Fiber

Recommended Use: High-temperature industrial furnace lining, expansion joint sealing, molten aluminum handling gaskets, thermal insulation.

Manufacturer / Supplier Details:

Company Name: AdTech Advanced Material Co., Ltd.

Website: https://www.c-adtech.com/

Email: sales@adtechamm.com

Emergency Telephone: Contact local poison control center or AdTech technical emergency support line

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

OSHA HCS (29 CFR 1910.1200): Carcinogenicity – Category 1B (Inhalation); Eye Irritation – Category 2B; Specific Target Organ Toxicity (Single Exposure) – Category 3 (Respiratory Irritation).

GHS / REACH Classification: Classified as a potential inhalation hazard if respirable airborne fibers are generated during mechanical cutting, tear-out, or handling.

2.2 GHS Label Elements & Precautionary Statements

Hazard Statements:

H350i: May cause cancer by inhalation (dust/respirable fibers).

H315: Causes mild skin irritation (mechanical friction).

H320: Causes eye irritation.

H335: May cause respiratory irritation.

Precautionary Statements:

P202: Do not handle until all safety precautions have been read and understood.

P261: Avoid breathing dust/fumes/respirable fibers.

P280: Wear protective gloves, protective clothing, eye protection, and N95/P2 approved respiratory protection.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name / Ingredient	CAS Number	EC Number	Weight % Range
Aluminosilicate Refractory Ceramic Fiber	142844-00-6	604-314-4	92% – 100%

Chemical Name / Ingredient	CAS Number	EC Number	Weight % Range
(Consisting of Silica, SiO_2)	60676-86-0	262-373-8	45% – 55%
(Consisting of Alumina, Al_2O_3)	1344-28-1	215-691-6	45% – 55%
Organic Binder *(Paper grade only, burns off < 300°C)*	Proprietary Blend	N/A	0% – 8%

SECTION 4: FIRST-AID MEASURES

Eye Contact: Do not rub eyes. Flush eyes immediately with large amounts of clean water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact: Wash affected area gently with soap and warm water. Do not rub or scratch skin, as mechanical friction from fibers may cause temporary irritation.

Inhalation: Move exposed individual to fresh air. Clean nose and throat with water. If coughing or respiratory symptoms develop, seek medical advice.

Ingestion: Unlikely hazard under industrial use. Rinse mouth thoroughly with water. Do not induce vomiting without medical guidance.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability: Non-combustible. The inorganic aluminosilicate fiber matrix will not burn or support combustion.

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding surrounding fire (Water spray, Dry Chemical, CO_2, Foam).

Special Hazards Arising from Substance: In paper grades containing organic binders, minor trace combustion products (CO, CO_2) may evolve during the initial heat-up cycle (< 300°C).

Protective Equipment for Firefighters: Wear self-contained breathing apparatus (SCBA) and standard protective bunker gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate Personal Protective Equipment (PPE) specified in Section 8. Avoid generating airborne dust during cleanup.

Environmental Precautions: Prevent material from reaching storm drains, sewers, or waterways.

Clean-up Methods: Use HEPA-vacuum equipment or wet sweeping techniques to collect loose fiber dust. **Do not use compressed air for blowing dust or dry sweeping.** Place collected waste in sealed dust-tight bags for disposal.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: Minimise airborne dust generation. Use local exhaust ventilation during cutting, slitting, or mechanical die-stamping. Practice good industrial hygiene—wash hands before eating, drinking, or smoking.

Storage Conditions: Store in a cool, dry, well-ventilated indoor warehouse. Keep product wrapped in original moisture-proof plastic packaging until installation to avoid dust contamination and water damage.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Airborne Exposure Limits

OSHA PEL (TWA): 15 mg/m³ (Total Dust); 5 mg/m³ (Respirable Fraction).

ACGIH TLV (TWA): 0.2 f/cc (Respirable Fibers, 8-hr TWA recommended).

NIOSH REL (TWA): 0.5 f/cc (Respirable Fibers).

8.2 Occupational Exposure Controls

Engineering Controls: Use local exhaust ventilation at workstations where cutting, punching, or handling occurs to maintain airborne fiber concentrations below regulatory limits.

Personal Protective Equipment (PPE):

Respiratory Protection: NIOSH/CE approved N95 or P2 half-face particulate respirator when handling loose fiber or cutting material.

Eye Protection: Goggles or safety glasses with side shields (ANSI Z87.1 approved).

Skin Protection: Long-sleeved loose-fitting work clothing and durable industrial gloves (leather or nitrile) to protect against mechanical skin irritation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid white fibrous blanket or flexible paper roll

Odor: Odorless

pH Value: Not Applicable (Solid Matrix)

Melting Point / Range: 1760°C – 1800°C (3200°F – 3272°F)

Classification Temperature: 1260°C (2300°F) / 1430°C (2600°F)

Flash Point / Flammability: Non-Flammable / Non-Combustible

Solubility in Water: Insoluble in water and organic solvents

Specific Gravity / Density: Blanket (64–128 kg/m³); Paper (180–220 kg/m³)

Vapor Pressure / Evaporation Rate: Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable under recommended storage and normal operating conditions up to 1430°C.

Possibility of Hazardous Reactions: None known under normal processing.

Conditions to Avoid: Excessive mechanical abrasion without ventilation.

Incompatible Materials: Hydrofluoric acid (HF), Phosphoric acid, and concentrated strong alkalis (which react with aluminosilicate matrices at elevated temperatures).

Hazardous Decomposition Products: None for pure ceramic fiber blanket. Paper grades may off-gas minor trace amounts of CO/CO_2 during initial binder burn-off between 200°C – 300°C.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Low acute toxicity via oral, dermal, or inhalation routes.

Skin Irritation: Mechanical friction from coarse fibers may cause temporary mild skin redness or itching.

Eye Irritation: Mechanical abrasion by airborne particles causes eye redness and irritation.

Chronic / Long-Term Effects:

IARC Classification: Group 2B (Possibly carcinogenic to humans).

NTP Classification: Reasonably anticipated to be a human carcinogen (Respirable Size Fibers).

Note on High-Temperature Exposure (Devitrification): Prolonged continuous exposure to temperatures above 1000°C (1832°F) can cause the amorphous aluminosilicate fibers to devitrify, transforming partially into crystalline silica (cristobalite / mullite). Dust generated during tear-out of used refractory linings should be handled with enhanced respiratory protection (N99/P3).

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: Inert inorganic material. No adverse ecotoxicological impacts observed on aquatic or terrestrial organisms.

Persistence and Degradability: Non-biodegradable in nature. Extremely high physical and thermal persistence.

Bioaccumulative Potential: Will not bioaccumulate.

Mobility in Soil: Insoluble solid. Will not leach into groundwater under standard environmental conditions.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Code / Classification: Non-hazardous industrial solid waste in most jurisdictions.

Disposal Method: Dispose of in accordance with local, state, national, and international environmental regulations (e.g., approved industrial landfill).

Packaging Disposal: Empty bags and plastic film wraps should be clean and recycled or disposed of according to local plastic packaging waste handling regulations.

SECTION 14: TRANSPORT INFORMATION

UN Number: Not Regulated as Dangerous Goods for transport.

DOT (US Dept of Transportation): Not Restricted.

IMDG (Maritime Transport): Not Restricted.

IATA / ICAO (Air Transport): Not Restricted.

Special Transport Precautions: Ensure containers are securely covered and protected from water/rain during transit.

SECTION 15: REGULATORY INFORMATION

15.1 International Inventory Status

TSCA (USA): All chemical components listed on the TSCA Inventory.

REACH (EU): Aluminosilicate Refractory Ceramic Fibers (RCF) are included on the SVHC (Substances of Very High Concern) candidate list under Regulation (EC) No 1907/2006.

RoHS / REACH Compliance: Meets heavy metal limits (Lead, Cadmium, Mercury, Hexavalent Chromium, PBB/PBDE free).

15.2 US Federal Regulations

SARA Title III (Section 313): Does not contain toxic chemical components subject to reporting requirements.

California Proposition 65: WARNING: This product contains airborne ceramic fibers known to the State of California to cause cancer.

SECTION 16: OTHER INFORMATION / DISCLAIMER

Acronym Legend:

ASTM: American Society for Testing and Materials

CAS: Chemical Abstracts Service

OSHA: Occupational Safety and Health Administration

TWA: Time-Weighted Average

LOI: Loss on Ignition

Disclaimer:

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