



INDUSTRIES 3R

MATERIAL SAFETY DATA SHEET

IDENTITY

Part Number: **3R2750HT**
 Identity: Superwool® Blanket
 Description: Calcium-Magnesium-Silicate Wool

SUPPLIER

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COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u># CAS</u>	<u>% BY WEIGHT</u>
Alkaline-Earth Silicate Wool ⁽¹⁾	436083-99-7	100

(1) CAS Definition: Alkaline Earth Silicate 9AES) consisting of silica (50-82 wt%), calcia and magnesia (18-43 wt%), alumina, titania and zirconia (less than 6 wt %), and trace oxides. This CAS composition also covers calcium-Magnesium-Silicate Wool (CAS no. 329211-92-9) and Calcium-Magnesium Zirconium-Silicate Wool (CAS no. 308084-09-5).

*See Section *Exposure Controls/ Personal Protection* for exposure guidelines.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White odorless material with a wool type appearance
 Odor: N/A
 Odor Threshold: N/A
 pH: Not Applicable
 Melting Point: 1275-1300°C (2327-2372°F)
 Boiling Point: Not Applicable
 Flashpoint: Not Applicable
 Evaporation Rate: Not Applicable
 Flammability: Not Applicable
 Upper/ Lower Flammability or Exposure Limits: Not Applicable
 Vapor Pressure: Not Applicable
 Vapor Density: Not Applicable
 Solubility: Less than 1 mg/litre
 Relative Density: 2.50-3.0
 Partition Coefficient:
 n-Octanol/water Not Applicable
 Auto-ignition temperature: Not Applicable
 Decomposition Temperature: Not Applicable
 Viscosity: Not Applicable

FIRE-FIGHTING MEASURES

Extinguishing media: Use extinguishing media suitable for type of surrounding fire

Special hazards arising from the chemical (e.g., nature of any hazardous combustion products): None

NFPA Codes: Health: 1 Fire: 0 Reactivity: 0 Other: 0

STABILITY AND REACTIVITY

Reactivity: Stable under conditions of normal use.

Chemical Stability: This is a stable material.

Possible of Hazardous Reaction: Not Applicable.

Conditions to Avoid: Please refer to handling and storage advise in Section *Handling and Storage*.

Incompatible Materials: Avoid contact with strong acids.

Hazardous Decomposition products: None.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

MAJOR COMPONENT	OSHA PEL	ACGIH TLV	MANUFACTURER'S REG.
Alkaline-Earth Silicate Wool	None Established	None Established	1 f/cc, 8-hr. TWA

Other occupational exposure levels (oel)

RCF-related occupational exposure limits vary internationally. Regulatory OEL examples include: Canada – 0.2 to 1.0 f/cc; United Kingdom – 1.0 f/cc. Non-regulatory OEL examples include: RCFC REG – 0.5 f/cc. The objectives and criteria underlying each of these OEL decisions also vary. The evaluation of occupational exposure limits and their relative applicability to the workplace is best performed, on a case-by-case basis, by a qualified Industrial Hygienist.

Engineering controls

Use engineering controls such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs, and materials handling equipment designed to minimize airborne fiber emissions.

Personal protection equipment

Skin:

Wear personal protective equipment (e.g gloves), as necessary to prevent skin irritation. Washable or disposable clothing may be used. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employees should be informed on best practices to minimize non-work dust exposure (e.g., vacuum clothes before leaving the work, wash work clothing separately, and rinse washer before washing other household clothes.

Eye: As necessary, wear goggles or safety classes with side shields.

Respiratory Protection – RCF:

When engineering and/or administrative controls are insufficient to maintain workplace exposures RED/PEL/REL, the use of appropriate respiratory protection, pursuant to the requirements of OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.103, is recommended. A NIOSH certified respirator with a filter efficiency of at least 95% should be used. The 95% filter efficiency recommendation is based on NIOSH respirator selection logic sequence for exposure particulates. Selection of filter efficiency (i.e. 95%, 99%, or 99.97%) depends on how much filter leakage can be accepted and the concentration of airborne contaminants. Other factors to consider are the NIOSH filter series N, R or P – (N) Not resistant to oil, (R) Resistant to oil and (P) oil Proof. These recommendations are not designed to limit informed choices, provided that respiratory protection decisions comply with 29 CFR 1910.134. The evaluation of workplace

hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified Industrial Hygienist.

DISPOSAL CONSIDERATIONS

Waste Management and disposal:

Unless wetted, such a waste is normally dusty and should therefore be properly sealed in containers for disposal. At some authorized disposal sites dusty waste may be treated differently, in order to ensure that they are dealt with promptly and to avoid them being windblown. Check for any national and/or regional regulations which may apply.

This product, as manufactured, is not classified as a hazardous waste according to Federal regulations (40 CFR 261). Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements. Under Federal regulations, it is the waste generator's responsibility to properly characterize a waste material, to determine if it is a «hazardous» waste. Check local, regional, state or provincial regulations to identify all applicable disposal requirements.

HAZARDS IDENTIFICATION

Not classified. Read the entire safety data sheet.

Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary.

FIRST AID MEASURES

Respiratory Tract (nose and throat) Irritation

If respiratory tract irritation develops, move the person to a dust free location. See *Section Exposure Controls/Personal protection* for additional measures to reduce or eliminate exposure.

Eye Irritation

If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes.

Skin Irritation

If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful.

Gastrointestinal Irritation

If gastrointestinal tract irritation develops, move the person to a dust free environment.

ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Minimize airborne dust. Compressed air or dry sweeping should not be used for cleaning See *Section Exposure Controls / Personal Protection* for exposure guidelines.

Methods and materials for containment and cleaning up: Frequently clean the work area with vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean-up.

HANDLING AND STORAGE

Storage : Store in manner to minimize airborne dust.

Handling : Handle ceramic fiber carefully. Limit use of power tools unless in conjunction with local exhaust. Use hand tools whenever possible.

Empty Containers : Product packaging may contain residue. Do not reuse.

TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Hazard Class:	Not regulated	United Nations (UN) Number:	Not applicable
Labels:	Not applicable	North America (NA) Number:	Not applicable
Placards:	Not applicable	Bill of Lading:	Product name

International

Canadian TDG Hazard Class & PIN: Not regulated

Not classified as dangerous goods under ADR (road), RID (train) or IMDG (ship).

TOXICOLOGICAL INFORMATION

Acute Toxicity:

IRRITANT PROPERTIES

Superwool fibers are negative when tested using approved methods (Directive 67/584/EEC, Annex 5, Method B4). Like all man-made mineral fibers and some natural fibers, fibers contained in this product can produce a mild mechanical irritation resulting in temporary itching or rarely, in damage but is caused by mechanical effects.

Toxicology:

Fibers contained in the products listed in the title have been designed to be rapidly cleared from lung tissue. This low bio persistence has been confirmed in many studies on AES using EU protocol ECB/TM/27(rev 7). When inhaled, even at very high doses, they do not accumulate to any level capable of producing a serious adverse biological effect. In lifetime chronic studies there was no exposure-related effect more than would be seen with any “inert” dust. Sub chronic studies at the highest doses achievable produced at worst a transient mild inflammatory response. Fibers with the same ability to persist in tissue do not produce tumors when injected into the peritoneal cavity of rats.

REGULATORY INFORMATION

United States Regulations

EPA: Superfund Amendments and Reauthorization Act (SARA) Title III - This product does not contain any substances reportable under Sections 302, 304, 313, (40 CFR 372). Sections 311 and 312 (40 CFR 370) apply (delayed hazard). Toxic Substances Control Act (TSCA) – RCF has been assigned a CAS number; however, it is not required to be listed on the TSCA inventory. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Air Act (CAA) - RCF contains fibers with an average diameter greater than one micron and thus is not considered a hazardous air pollutant.

OSHA

Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and the Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103.

California

Ceramic fibers (airborne particles of respirable size) is listed in Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986 as a chemical known to the State of California to cause cancer.

Other States

RCF products are not known to be regulated by states other than California; however, state and local OSHA and EPA regulations may apply to these products. If in doubt, contact your local regulatory agency.

International Regulations

Canada: Canadian Workplace Hazardous Materials Information System (WHMIS) - RCF is classified as Class D2A - Materials Causing Other Toxic Effects

Canadian Environmental Protection Act (CEPA) - All substances in this product are listed, as required, on the Domestic Substances List (DSL)

European Union: European Directive 97/69/EC classified RCF as a Category 2 carcinogen; that is it «Should be regarded as if it is carcinogenic to man.»

REACH Regulation: RCF is classified under the CLP 9classification, labelling and packaging of substances and mixtures) regulation as a category 1B carcinogen. On January 13, 2010 the European Chemicals

Agency 9ECHA) updated the candidate list for authorization (Annex XV of the REACH regulation) and added 14 new substances in this list including aluminosilicate refractory ceramic fibers.

As a consequence, EU (European Union) or EEA (European Economic Area) suppliers of articles which contain aluminosilicate refractory ceramic fibers in a concentration above 0.1% (w/w) have to provide sufficient information, available to them, to their customers or upon requests to a consumer within 45 days of the receipt of the request. This information must ensure safe use of the article, and as a minimum contains the name of the substance.

OTHER INFORMATION

Devitrification:

PRECAUTIONARY MEASURES TO BE TAKEN AFTER SERVICE UPON REMOVAL

High temperature insulating wool (HTIW) is typically used in insulation applications to keep temperature exposure at 900°C or above in a closed space. The exposure temperature maximum occurs at the hot face surface of the insulation. The heat exposure on the insulation decreases from the hot face to the cold face as the insulation "insulates itself". As a result, only thin layers of the hot face surface of the insulation become devitrified and respirable dust generated during removal operations typically do not contain detectable levels of crystalline silica (CS).

Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro and in vivo. The results from different factor combinations such as increased brittleness of fibers or micro crystals embedded in the glass structure of the fiber and therefore not biologically available, may explain the lack of toxicological effects. IARC evaluation as provided in Monograph 68 is not relevant since CS is not biologically available in after-service HTIW.

HMIS Hazard rating

HMIS Health	1
HMIS Flammable	0
HMIS Reactivity	0
HMIS Personal Protective Equipment X (To be determined by user)	

DISCLAIMER

The information, details, dimensions and values indicated are to our best knowledge. We recommend testing according to local conditions. The specifications are subject to change without notice.