



Specialty Products, Inc.

## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** LEWCO RG 2300 Ceramic Fiber Products  
**Product Use Description:** Thermal Insulation Materials, Ceramic Fiber Insulation Blanket, Ceramic Fiber Bulk, Ceramic Fiber Fabrics, Ceramic Fiber Rope, Ceramic Fiber Tubing, Ceramic Fiber Sleeving, and Ceramic Fiber Tadpole Tapes.  
**Manufacturer/Distributor:** Lewco Specialty Products, Inc.  
6859 Renoir Avenue  
Baton Rouge, LA 70806  
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(225) 924-3221 Fax (225) 927-2918  
**Emergency Telephone:** Not available

### 2. HAZARDS IDENTIFICATION

#### GHS hazard classification

Health hazards: Respiratory or skin sensitization, 1 Skin  
Skin corrosion/irritation, 2  
Serious eye damage/eye Irritation, 2A  
Specific target organ toxicity - Single exposure, 3

Physical hazards: Not classified

Environmental: Not classified

#### GHS lab elements

Signal words: Warning

Hazard statements: H315, Causes skin irritation  
H317, May cause an allergic skin reaction  
H320, Causes eye irritation  
H335, May cause respiratory irritation

Hazard pictograms/symbols:



#### Precautionary statements

(Prevention): P264, Wash...thoroughly after handling.  
P280, Wear protective gloves/protective clothing/eye protection/face protection  
(Response): P302 + P352, IF ON SKIN-Wash with plenty of soap and water.  
P304 + P340, IF INHALED-Remove victim to fresh air and keep at rest in a position 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.

P312, Call a POISON CENTER or doctor/physician if you feel unwell.  
 P321, Specific treatment (see supplemental first aid on this label).  
 P332+313, If skin irritation occurs-Get medical advice/attention.  
 P337+313: If eye irritation persists-Get medical advice/attention.  
 P362, Take off contaminated clothing and wash before reuse.  
 P370+378, In case of fire: Use dry chemical, dry sand, carbon dioxide or alcohol-resistant foam to extinguish.

(Storage): Not applicable  
 (Disposal): P501, Dispose of contents/container in accordance with local regulation.  
 Description of any hazards not otherwise classified: Not applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS number	% by weight
Refractory Ceramic Fiber (RCF)	142844-00-6	98 -100

(See Section 8 for Exposure Limits)

### 4. FIRST AID MEASURES

**Inhalation:** Move individual to fresh air. Drink water to clear throat and blow nose to remove fibers. Seek medical attention if irritation persists.

**Skin Contact:** Wash with mild soap and running water: use a washcloth to help remove dust and fibers. To avoid further irritation do not rub or scratch irritated areas. Rubbing or scratching may force fibers into the skin. Seek medical attention if irritation persists.

**Eye Contact:** Flush eyes with flowing water for at least 15 minutes. Seek medical attention if irritation persists.

**Ingestion:** Drink extra water to assist natural elimination. Seek medical attention if gastrointestinal irritation persists or other symptoms such as nausea, vomiting, or abdominal pain occur.

**Most important symptoms/effects-acute or delayed:** Irritation of dusts and fibers may result in inflammation of the upper respiratory tract (mouth, nose and throat), and itch and temporary mechanical irritation on skin.

**Immediate medical care and special treatment needed:** Indication for physician: No specific medical precaution necessary.

### 5. FIRE FIGHTING MEASURES

**Suitable extinguishing equipment:** Water, foam, carbon dioxide (CO<sub>2</sub>), dry chemical

**Specific hazards:** Refractory ceramic fiber are not flammable and incombustible and don't support Combustion. Only the packaging (plastic film, paper, cardboard, wood) and the small amounts of organic binders are combustible and could release small quantities of hazardous gases.

**Special protective equipment or precautions for firefighters:** Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions and** Wear suitable protective clothing, gloves and eye/face protection. Just in

**protective equipment:** case of dusty environment avoid contact with the skin and the eyes.  
**Emergency procedures:** Evacuate personnel to safe areas. Provide sufficient ventilation.  
**Environmental precautions:** The products are ecologically harmless.  
**Cleanup procedures:** Vacuum clean, sweep or shovel into containers. Dispose of in accordance with appropriate laws and regulations.

## 7. HANDLING AND STORAGE

**Handling:** Use adequate safety equipment (gloves, glasses, dust mask) in order to minimize the possible risk of contact with skin, mucous membrane and eyes and decrease irritations and allergies.  
**Storage:** These products are stable under all conditions of storage. Store in original container in a dry area. Keep container closed when not in use. Avoid creating dust.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Exposure Limits

Component:	Limit/set by
Refractory ceramic fiber	ACGIH: TLV-TWA, 5 mg/m <sup>3</sup> (respirable dust).

### Engineering controls

**Ventilation:** Pending results of long-term health effects studies, engineering controls (i.e. ventilation) and work practices should be established to control levels of airborne fiber to the lowest level attainable. Provide sufficient ventilation, in both volume and air flow patterns to control the fiber/dust concentrations below allowable exposure limits.

### Personal protective Equipment

**Respiratory Protection:** Lewco Specialty Products currently recommends an exposure limit of one fiber per cubic centimeter (1 f/cc) for respirable airborne ceramic fiber as an 8-hour time weighted average exposure. Provide workers with NIOSH/MSHA-approved respirators in accordance with requirements of 29 CFR 1910.134 when airborne concentrations of respirable fiber and/or cristobalite exceed the recommended limits.  
The following are recommended respirator types for the varying respirable airborne concentrations of ceramic fiber and/or cristobalite. Airborne fiber and cristobalite concentrations are determined by time-weighted air samples collected and analyzed using NIOSH Method 7400 ("B" counting rules) and 7500, respectively. Exposures are expressed as 8-hour time weighted averages.

Fiber	Cristobalite	Respirator Type
< 1 f/cc	<0.05 mg/m <sup>3</sup>	Optional disposable respirator (example: 3M 9900)
1-5 f/cc	0.05-0.5 mg/m <sup>3</sup>	Half-mask air-purifying respirator equipped with high-efficiency particulate air (HEPA) filter cartridges (example: 3M 6340)
5-25 f/cc	0.5-2.5 mg/m <sup>3</sup>	Full-face piece air-purifying respirator equipped with high- efficiency particulate air (HEPA) filter cartridges (example: 3M 7800 with 7255 filters) or powered air-purifying respirator (PAPR) with HEPA filter cartridges.
>25 f/cc	>2.5 mg/m <sup>3</sup>	Any supplied-air respirator operated in positive pressure mode (example: 3M 7800 with W9435 hose and W3196 regulator connected to clean air supply).

**Hand Protection:** Wear gloves when handling this product, and wash thoroughly with soap and water after handling materials.

Eye Protection:	Safety glasses, goggles or face shields should be worn whenever materials are being handled.
Protective Clothing:	Wear loose fitting, long sleeved shirt and long pants if irritation is experienced.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state, color, etc.):</b>	Solid, white
<b>Upper/lower flammability or explosive limits:</b>	Not available
<b>Odor:</b>	No odor
<b>Vapor pressure:</b>	Not available
<b>Odor threshold:</b>	Not available
<b>Vapor density:</b>	Not available
<b>pH:</b>	Not available
<b>Relative density Specific Gravity (H<sub>2</sub>O=1):</b>	2.5 -2.7
<b>Melting point:</b>	Not available
<b>Softening point:</b>	>2900°F (1590°C)
<b>Solubility(ies):</b>	Not soluble in water
<b>Initial boiling point and boiling range:</b>	Not available
<b>Flash point:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Flammability (solid, gas):</b>	Not available
<b>Partition coefficient(n-octanol/water):</b>	Not available
<b>Auto-ignition temperature:</b>	Not available
<b>Decomposition temperature:</b>	Not available
<b>Viscosity:</b>	Not available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Product is stable under normal conditions of use
<b>Conditions to avoid:</b>	Not available
<b>Materials to avoid:</b>	Materials are not compatible with hydrofluoric acid, strong acid and alkali vapors
<b>Hazardous decomposition products:</b>	If the material is heated, residual proprietary organic ingredients contained in this product may produce smoke and irritating fumes including carbon monoxide and carbon dioxide.
<b>Possibility of hazardous reactions/reactivity:</b>	Not available

## 11. TOXICOLOGICAL INFORMATION

<b>Likely routes of exposure:</b>	Industry epidemiologic investigations of RCF production workers and surveillance of customer's employees using RCF is ongoing. Lewco has an active product stewardship program to monitor and disseminate information as it becomes available. Preliminary interim results <sup>1</sup> , obtained from employees in RCF manufacturing facilities, is as follows: 1. There is no evidence of any fibrotic lung disease (interstitial fibrosis) on x-ray. 2. There
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is no evidence of any lung disease among those employees exposed to RCF that have never smoked. 3. A statistical trend was observed in the exposed population between the duration of exposure to RECF and a decrease in some measures of pulmonary function. These observations are clinically insignificant. In other words, if these observations were made on an individual employee, the results would be interpreted as being within the normal range. 4. Pleural plaques (thickening along the chest wall) have been observed in a small number of employees who had a long duration of employment. There are several occupational and non-occupational causes for pleural plaque. It should be noted that plaques are not pre-cancer nor are they associated with any measurable effect on lung function.

**Chronic toxicity/effects from short- and long-term exposure:**

The International Agency for Research on Cancer (IARC) reviewed the carcinogenicity data on man-made vitreous fibers (including RCF) in 1987. IARC classified RCF as “possibly carcinogenic to humans” Group 2B. IARC’s classification of RCF was based on sufficient evidence of carcinogenicity in experimental animals in the absence of data on the carcinogenicity of RCF to humans. Additionally, IARC classified cristobalite, which may be found in after service RCF as “probably carcinogenic to humans” Group 2A. The long-term, excessive inhalation of respirable fiber may contribute to the development of industrial bronchitis, reduced breathing capacity, and lead to increased susceptibility to other lung disease.

**Acute toxicity:  
Carcinogens:**

Not available

The International Agency for Research on Cancer (IARC) reviewed the carcinogenicity data on manmade vitreous fibers (including ceramic fiber, glasswool, rockwool, and slagwool) and classified MMVF as a possible human carcinogen (Group 2B). IARC’s 2B classification was based on sufficient evidence of carcinogenicity in experimental animals and inadequate evidence (no Data) of the carcinogenicity of ceramic fibers to humans.

A number of studies on the health effects of inhalation exposure of rats and hamsters have recently been completed. In a lifetime nose-only inhalation study<sup>3</sup>, rats exposed to the Maximum Tolerated Dose of 30 mg/m<sup>3</sup> (approximately 200 fibers/cc) developed pleura (lining of the chest and lung). In contrast, hamsters similarly exposed developed interstitial fibrosis and pleural cancer, but no lung cancer. Cancer of the pleura is called mesothelioma.

In another lifetime nose-only inhalation study, rats were exposed to three different concentrations of RCF (3, 9, and 16 mg/m<sup>3</sup>; approximately 25, 75, and 115 fibers per cc respectively). The data from this study demonstrated a dose-response relationship in the biological effects of RCF in rats. There is no RCF related increase in lung tumors at 3, 9, or 16 mg/m<sup>3</sup>. A pleural fibrosis and mesothelioma were seen in a single rat in the mid-dose (9 mg/m<sup>3</sup>) group. In addition, no consistently diagnosed fibrosis was seen below 9 mg/m<sup>3</sup>. Pulmonary fibrosis was observed at 9 and 16 mg/m<sup>3</sup>.

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## 12. ECOLOGICAL INFORMATION

No data available on any adverse effects of this material on the environment.

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## 13. DISPOSAL CONSIDERATIONS

### Waste Disposal Method

This product does not exhibit any characteristics of a hazardous waste. It is recommended that the product should be contained in bags or suitable closed containers to prevent creating any airborne dust during the disposal. The product is suitable for landfill disposal. However, debris generated during installation, maintenance or tear-out procedures may be contaminated with other hazardous materials. Therefore, appropriate waste analysis may be necessary to determine proper disposal. Waste characterization and disposal/treatment methods should be determined by a qualified environmental professional in accordance with applicable federal, state and local regulations.

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## 14. TRANSPORT INFORMATION

US Department of Transportation: Not regulated by DOT as a hazardous material. No hazard class, no label or placard required no UN or NA number assigned.

Canadian TDG Hazard Class & PIN: Not regulated

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## 15. REGULATORY INFORMATION

SARA Title III: This product does not contain any substances reportable under Sections 302, 304, and 313. Sections 311 and 312 do apply (Routine Reporting and Chemical Inventories)

TSCA: All substances in this product are listed in the chemical substance inventory [Section 8(b)]. Refractories, fibers, aluminosilicate fibers (RCF) CAS# 142844-00-6 is subject to the TSCA Export Notification Requirements [Section 12(b)] of TSCA

OSHA: Comply with Hazard Communication Standard 29 CFR 1910.134 and 29 CFR 1926.103. Also, Respiratory Protection Standard 29 CFR 1910.134 and 29 CFR 1926.103.

CALIFORNIA: Listed as “Ceramic Fibers (airborne particles of respirable size)” Proposition 65 and The Safe Drinking Water and Toxic Enforcement Act of 1986.

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## 16. OTHER INFORMATION

Prepared by: Peter Zhou  
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**Disclaimer:** Lewco Specialty Products, Inc. makes no warranty of any kind regarding the accuracy or completeness of the information contained herein. Users should independently determine the suitability and completeness of information from all sources for their particular purpose (s). While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

### Special Precautions:

Product which has been in service above 1800°F (982°C) may undergo partial conversion to cristobalite, a form of crystalline silica which presents a health hazard if inhaled over long periods of time. Cristobalite is classified as a probable human carcinogen by IARC, Group 2A

### After-Service RCF Removal Precautions:

1. Employees should be appraised of the hazards and proper conditions and precautions for safe use or exposure.
2. NIOSH-approved respirators, in accordance with requirements of 29 CFR 1910.134 should be used according to the above guidelines for dust levels above the OSHA PEL (8-hour TWA) of 0.05 mg/m<sup>3</sup> for cristobalite.
3. Dust generation should be minimized by the use of dust control equipment or water spray when feasible.
4. Wear protective clothing and vacuum clean prior to removing clothing.
5. Where there is a possibility of exposure to dust containing crystalline silica, the following warning should be posted: FREE SILICA WORK AREA – AVOID BREATHING DUST – DUST MAY CAUSE DELAYED LUNG INJURY (SILICOSIS).