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March 19, 2010

Mr. John S Hohenshelt
PARAGON INDUSTRIES, INC.
2011 S Town East Blvd
Mesquite TX 75149

RE: Updated Material Safety Data Sheet(s)

Dear Customer:

To ensure that your company has the most current Material Safety Data Sheet(s), enclosed please find the following updated MSDS(s):

MSDS No.	Revision	MSDS No.	Revision
5010	2	5015	2

These MSDS(s) are being sent as a result of your order no.:
JOHN HOHENSHELT

Please retain these for your records and distribute to the appropriate personnel within your company.

Our MSDS(s) have been updated to follow the format recommended by the Refractory Ceramic Fibers Coalition. If you have any questions regarding the enclosed information, please do not hesitate to contact our office at (517)223-3787.

Respectfully,
Customer Service Team

Rex Materials, Inc.
P.O. Box 980
5600 East Grand River
Fowlerville, MI 48836
(517) 223-3787 TEL
(517) 223-6822 FAX

Rex Materials of Virginia, Inc.
601 Bailey Street
South Hill, VA 23970
(434) 447-7659 TEL
(434) 447-7650 FAX

Rex Materials of Kansas, Inc.
P.O. Box 160
1000 Union Street
Council Grove, KS 66846
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MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Group: REFRACTORY HARDENER
Chemical Name: AMORPHOUS SILICA
Synonym(s): Colloidal Silica

Trade Names: PYROSET RIGIDIZER; PYROSET EL RIGIDIZER

Manufacturer/Supplier:



P.O. Box 980
Fowlerville, MI 48836

For additional information or MSDSs, call Rex Materials Customer Service at (517) 223-3787.

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u>CAS NUMBER</u>	<u>% BY WEIGHT</u>
Amorphous Silica	7631-86-9	20-40
Water	7732-18-5	60-80
Ethylene Glycol	107-21-1	0-8

(See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines)

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION! MAY BE HARMFUL IF SWALLOWED.
MAY CAUSE SKIN AND EYE IRRITATION.
DUSTS FROM DRIED, ABRADED PRODUCT MAY CAUSE RESPIRATORY TRACT IRRITATION.

(See Section 11 for more information)

OTHER POTENTIAL EFFECTS

TARGET ORGANS:

Respiratory Tract (nose & throat), Eyes, Skin

RESPIRATORY TRACT (nose & throat) IRRITATION:

At room temperature, exposure to ethylene glycol vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects. If dried and abraded, airborne dust may cause temporary, mild mechanical irritation to respiratory tract. Symptoms may include scratchiness of the nose or throat, cough, or chest discomfort.

EYE IRRITATION:

Slightly to moderately irritating. May be abrasive; prolonged contact may cause damage to the outer surface of the eye.

SKIN IRRITATION:

Repeated and prolonged skin exposure to large quantities of wet product may result in absorption of harmful amounts of ethylene glycol. Exposure to dried product may cause may cause temporary, mild mechanical irritation. Exposure may also result in inflammation, rash or itching.

GASTROINTESTINAL IRRITATION:

Single dose oral toxicity is considered to be moderate. Small amounts swallowed incidental to normal handling operations are not likely to cause injury.

CHRONIC EFFECTS:

None identified.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Pre-existing medical conditions, including dermatitis, asthma, or chronic lung disease, may be aggravated by exposure to dried and abraded product; individuals who have a history of allergies may experience greater amounts of skin and respiratory irritation. Individuals with preexisting diseases of the kidneys may have increased susceptibility to ethylene glycol exposure.

HAZARD CLASSIFICATION

The **International Agency for Research on Cancer (IARC)** has determined that amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3).

The **Hazardous Materials Identification System (HMIS)** -

Health: 1 Flammability: 0 Reactivity: 0 Personal Protection Index: X (Employer Determined)

4. FIRST AID MEASURES

FIRST AID PROCEDURES

RESPIRATORY TRACT (nose & throat) IRRITATION:

If respiratory tract irritation develops, move the person to a dust free location. Get medical attention if the irritation continues. See Section 8 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. Get medical attention if irritation persists.

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. Seek medical attention if symptoms persist.

NOTES TO PHYSICIANS:

Skin and respiratory effects are the result of temporary, mild mechanical irritation; exposure does not result in allergic manifestations.

5. FIRE FIGHTING MEASURES

NFPA Codes: **Flammability:** 0 **Health:** 1 **Reactivity:** 0 **Special:** 0

NFPA Unusual Hazards: None
Flammable Properties: None
Flash Point: None
Unusual Fire and Explosion Hazard: None
Extinguishing Media: Use extinguishing media suitable for type of surrounding fire.

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES

Do not walk through spilled material. Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution.

7. HANDLING AND STORAGE

Normal conditions of use and application are not expected to release respirable particulates. Removal of used product, sanding, scraping, or otherwise destroying the integrity of the dried product may result in the release of particulates. During such operations, appropriate respiratory protection should be provided as discussed below and/or in Section 8 under Respiratory Protection.

STORAGE

Store in original container in a dry area. Keep container closed when not in use.

HANDLING

During removal, avoid creating airborne dust. Dust suppressing cleaning methods such as wet sweeping or vacuuming should be used to clean the work area. If vacuuming, the vacuum must be equipped with a HEPA filter. Compressed air or dry sweeping should not be used for cleaning.

EMPTY CONTAINERS

Product packaging may contain residue. Do not reuse.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

COMPONENTS	OSHA PEL	SUPPLIER REG
Water	None Established	None Established
Amorphous Silica	80 mg/m ³ / % SiO ₂	N/A
Ethylene Glycol	50 ppm Ceiling	N/A

OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL)

Amorphous Silica 10 mg/m³ (ACGIH TLV)
Ethylene Glycol 100 mg/m³ TLV-C (vapor and mist)

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 particulate emissions.

PERSONAL PROTECTION EQUIPMENT

Respiratory Protection:

When engineering and/or administrative controls are insufficient, the use of appropriate respiratory protection, pursuant to the requirements of OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.103, is recommended. 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.

Skin Protection:

Wear gloves, head coverings, and full body clothing 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, employers should ensure employees are thoroughly trained on the best practices to minimize or avoid non-work dust exposure (e.g., vacuum clothes before leaving the work area, wash work clothing separately, rinse washer before washing other household clothes, etc.).

Eye Protection:

Wear safety glasses with side shields or other forms of eye protection in compliance with appropriate OSHA standards to prevent eye irritation. The use of contact lenses is not recommended, unless used in conjunction with appropriate eye protection. Do not touch eyes with soiled body parts or materials. If possible, have eye-washing facilities readily available where eye irritation can occur.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR AND APPEARANCE:	Cloudy liquid / No odor.
CHEMICAL FAMILY:	Amorphous silica
BOILING POINT:	100° C (212° F)
WATER SOLUBILITY (%):	100%
MELTING POINT:	0° C (32° F)
SPECIFIC GRAVITY:	1.1-1.3
VAPOR PRESSURE:	24 mm Hg @ 25° C (77° F)
pH:	10-11
VAPOR DENSITY (Air = 1):	Vapor i s water.
% VOLATILE:	60-80%
MOLECULAR FORMULA:	SiO ₂

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under conditions of normal use.
INCOMPATIBILITY:	Soluble in hydrofluoric acid, phosphoric acid, and concentrated alkali.
CONDITIONS TO AVOID:	None.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition of binder from fires or from first heat of product may release smoke, carbon monoxide, and carbon dioxide. Use adequate ventilation or other precautions to eliminate exposure to resultant vapors.
HAZARDOUS POLYMERIZATION:	Not Applicable.

11. TOXICOLOGICAL INFORMATION

Rigidizer is a water-based, refractory hardener which may be slightly irritating to the skin and eyes. Dried or fired dusts generated by abrading or machining hardened product may also be irritating, although normal conditions of use and application are not expected to release respirable particulates. The International Agency for Research on Cancer (IARC) has concluded that amorphous silica is "not classifiable as to its carcinogenicity to humans (Group 3)" based on "inadequate evidence in humans for the carcinogenicity of amorphous silica" and "inadequate evidence in experimental animals for the carcinogenicity of synthetic amorphous silica" (IARC Monograph 68, June 1997, p. 210-211).

12. ECOLOGICAL INFORMATION

No ecological concerns have been identified.

13. DISPOSAL CONSIDERATIONS

DISPOSAL

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.

EUROPEAN UNION

Waste from this product is not classified as "hazardous" or "special" under European Union regulations. Disposal is permitted at landfills licensed for industrial waste.

14. 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).

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS

EPA:

Superfund Amendments and Reauthorization Act (SARA) Title III - Except for ethylene glycol, 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) - All substances in this product are listed, as required, on the TSCA inventory.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Clean Air Act (CAA) - 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:

None

Other States:

Not known to be regulated by states; 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) - Ethylene glycol is classified as Class D, 2, A - Materials Causing Other Toxic Effects

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

16. OTHER INFORMATION

DEVITRIFICATION

The amorphous silica contained in this product may devitrify and form cristobalite (a form of crystalline silica) when used at temperatures above 1000° C (1832° F) for sustained periods. Chronic exposure to respirable crystalline silica may lead to lung disease. IARC's evaluation of crystalline silica states "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)" and additionally notes "carcinogenicity in humans was not detected in all industrial circumstances studied" (IARC Monograph Vol. 68, 1997). NTP lists all polymorphs of crystalline silica amongst substances which may "reasonably be anticipated to be carcinogens".

AFTER-SERVICE REMOVAL

Respiratory protection should be provided in compliance with OSHA standards. During furnace tear-out operations where overhead work is required, a FULL FACE RESPIRATOR (at a minimum) is recommended to reduce inhalation exposure along with eye and respiratory tract irritation. A specific evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified industrial hygiene professional.

PRODUCT STEWARDSHIP PROGRAM

Since this product is often used in conjunction with Refractory Ceramic Fiber (RCF) materials, please call Rex Roto Corporation as appropriate for more information on the proper use and handling of RCF products. The Unifrax Corporation, a manufacturer of RCF, has established a program to provide customers with up-to-date information regarding the proper use and handling of refractory ceramic fiber. In addition, Unifrax Corporation has also established a program to monitor airborne fiber concentrations at customer facilities. If you would like more information about this program, please call the Unifrax Corporation Product Stewardship Information Hotline at 1-800-322-2293.

As of the date of preparation of this document, the foregoing information is believed to be accurate and is provided in good faith to comply with applicable Federal and State laws. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the foregoing data. In addition, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.