

MATERIAL SAFETY DATA SHEET

M EAGLE-PICHER MINERALS, INC.

FLOOR DRY 85

DATE ISSUED: November 18, 1985

DATE REVISED: November 1, 1997

REVISION NO: 6

SECTION I: MATERIAL IDENTIFICATION AND USE

MATERIAL NAME: Floor Dry, Super Fine, Celatom MP grades, Solid-A-Sorb I & II, Absorb-O-Sox (Filling)

MANUFACTURER'S NAME: Eagle-Picher Minerals, Inc.

STREET ADDRESS: 6110 Plumas

CITY: Reno STATE: Nevada ZIP: 89509

EMERGENCY TELEPHONE NO.: (702) 824-7600

CHEMICAL FORMULA: SiO₂

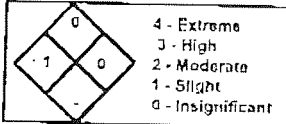
CHEMICAL NAME: Diatomaceous Earth, calcined

TRADE NAME: Celatom

CHEMICAL FAMILY: Silica

MATERIAL USE: Absorbent, Filler

NFPA



HMS

- * Health
- 0 Flammability
- 0 Reactivity
- E Protective Equipment

REFER TO DATA ON MSDS

SECTION II: HAZARDOUS INGREDIENTS OF MATERIAL

INGREDIENT IDENTIFICATION	APPROXIMATE CONCENTRATION %	C.A.S. NUMBERS	OSHA PEL [ACGIH TLV]	LD50/ LC 50 SPECIES AND ROUTE
Diatomaceous Earth, calcined	100%	91053-39-3	See below	not available
Crystalline Silica (Cristobalite)	< 1%	14464-46-1	0.05 mg/m ³ * [0.05 mg/m ³]	not available
Crystalline Silica (Quartz)	< 1%	14808-60-7	0.10 mg/m ³	

For sampling silica dusts refer to NIOSH Analytical Method 7500 or OSHA method ID 142 (* Refer to OSHA Table Z-3)

SECTION III: PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: Solid	COOR AND APPEARANCE: Tan to light pink granules	SPECIFIC GRAVITY: 2.2	BOILING POINT: Not Applicable
VAPOR PRESSURE (mm): Not Applicable	VAPOR DENSITY: Not Applicable	pH: 7 (10% Slurry)	SOLUBILITY/WATER: <2%
			FREEZING POINT: Not Applicable

SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY: YES NO X IF YES, UNDER WHICH CONDITIONS

MEANS OF EXTINCTION: n/ap SPECIAL PROCEDURES: Not Applicable

SECTION V - HEALTH HAZARDS

Calcined diatomaceous earth (Kieselguhr) contains crystalline silica which is a known cause of silicosis, a progressive, sometimes fatal, lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-Aramid Fibrils"), the International Agency for Research on Cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans." In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied.

Although the recent IARC determination was, in part, based on a 1992 study of diatomite workers, a 1996 follow-up which was issued by the University of Washington and Tulane University was not available to the Working Group. The follow-up study reported a Standardized Mortality Ratio (SMR) of 2.01 for non-malignant respiratory disease (NMRD) and an SMR of 1.29 for lung cancer when compared to national and regional populations. This is a reduction in the levels reported in the 1992 report (SMR=2.59 for NMRD and SMR=1.43 for lung cancer).

As noted in the 1992 study, relatively intense exposures to crystalline silica that occurred before the 1950's were probably the most important contributors to the excesses in NMRD and lung cancer. The 1996 report continues to support the conclusion that recent improvements in dust control in the industry appear to have abated any excess risk of silicosis or lung cancer in today's work environment. A soon to be published (1997) radiographic study also appears to support the fact that current occupational exposures and occupational exposure limits are adequate to prevent excess risks of developing silicosis from diatomaceous earth. A more detailed report discussing the IARC classification and the diatomite worker studies is available on request.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing diseases of the upper respiratory tract and lung such as bronchitis, emphysema, and asthma

IMPORTANT HEALTH HAZARD DATA CONTINUES ON THE SECOND PAGE

MATERIAL

NAME/IDENTIFIER: Floor Dry, Super Fine, Celatom MP grades, Solid-A-Sorb I & II, Absorb-O-Sox (Filling)

SECTION V - HEALTH HAZARDS CONT'D

ROUTE OF ENTRY: Inhalation (Chronic)

TARGET ORGANS: Lungs

EFFECTS OF ACUTE EXPOSURE TO PRODUCT: Upper respiratory irritant - May cause coughing or throat irritation

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT:

Inhalation of crystalline silica dust in excess of the Threshold Limit Value (TLV) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) or in excess of the Permissible Exposure Limit (PEL) established by OSHA over an extended number of years may cause silicosis, a progressive sometimes fatal lung disease. Although silicosis is a non-cancerous lung disease, a 1992 study conducted by the University of Washington on certain diatomite workers, and a 1996 follow-up to this study, indicates that exposure to high concentrations of crystalline silica for many years may increase the potential risk of developing lung cancer. The 1996 follow-up study continues to support the findings of the 1992 study in that for those workers hired since 1960, no increase in lung cancer mortality risk was found. Consequently, maintenance of crystalline silica dust concentrations at or below levels specified by occupational standards setting agencies will minimize, if not eliminate, any potential excess risk of NMRD or lung cancer.

IARC - "Inhaled crystalline silica from occupational sources" - Group 1 - Carcinogenic to humans

NTP - "Silica, crystalline (respirable)" - "reasonably anticipated to be a carcinogen"

OSHA - Has not classified crystalline silica as a carcinogen

SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY:

YES NO
 INCOMPATIBILITY TO OTHER SUBSTANCES YES NO
 IF YES, WHICH ONES? Hydrofluoric Acid
 Products containing Silica may react violently with Hydrofluoric Acid

REACTIVITY AND UNDER WHAT CONDITIONS: Not Applicable

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

PERSONAL PROTECTIVE EQUIPMENT:

Bureau of Mines or NIOSH approved respirators for protection against pneumoconiosis producing dusts recommended when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use quarter or half mask respirator with replacement dust filter or single use dust respirator approved for silica containing dusts. If dust concentration is greater than ten (10) times and less than one hundred (100) times the PEL use full faceplate respirator with replaceable dust filter; if greater than one hundred (100) and less than two hundred (200) times the PEL use power air-purifying (positive pressure) respirator with replaceable filter; if greater than two hundred (200) times the PEL use type C, supplied-air respirator, continuous flow type (positive pressure), with full facepiece, hood, or helmet.

GLOVES: Not normally necessary

RESPIRATORY: Note Above

EYE: Goggles to protect from dust

FOOTWEAR: Not necessary

CLOTHING: Not normally necessary

ENGINEERING CONTROLS (E.G. VENTILATION, ENCLOSED PROCESS,): Local - Control within recommended TLV/PEL. Refer to ACGIH publication "Industrial Ventilation" or similar publications for design of ventilation systems.

LEAK AND SPILL PROCEDURE:: Vacuum clean spillage, wet sweep or wash away. Avoid creating dust.

WASTE DISPOSAL: Non-Biodegradable. Use solid waste disposal common to landfill type operations or in slurry to sumps. Not considered a hazardous waste under RCRA (40CFR Part 264)

HANDLING PROCEDURES: Avoid creating dust. Repair or properly dispose of broken bags

STORAGE REQUIREMENTS: Store in a dry place to maintain product quality

SPECIAL SHIPPING INSTRUCTIONS: None

SECTION VIII - FIRST AID MEASURES

SKIN: Not absorbed by the skin. May cause dryness. Use moisture renewing lotions if dryness occurs.

EYE: May cause irritation or inflammation. Wash with generous quantities of water. Consult physician if irritation persists.

INHALATION: Acute inhalation can cause dryness of the nasal passages and congestion of the upper respiratory tract. Remove to fresh air.

INGESTION: Short-term exposure not considered harmful. Drink generous amounts of water to reduce bulk and drying effects.

SECTION IX - PREPARATION DATE OF M.S.D.S.

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TITLE: Director - Government Affairs

PHONE NUMBER: (702) 524-7650

DATE: November 1, 1997