

MATERIAL SAFETY DATA SHEET

EAGLE-PICHER MINERALS, INC.

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REVISION NO. 3

I. PRODUCT IDENTIFICATION

PRODUCT NAME: Celatom FP-4

CHEMICAL FAMILY: Silica

CHEMICAL FORMULA: SiO_2

CAS#: 68855-54-9

WEIGHT% 100%

VOLUME% 100%

CHEMICAL NAME: Diatomaceous earth, flux-calcined

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

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II. PRODUCT INGREDIENTS

INGREDIENT IDENTIFICATION	CAS NUMBER	OSHA PEL AND/OR ACGIH TLV	%
Diatomaceous Earth, Flux-Calcined	68855-54-9	See below	100%
Crystalline silica (as Cristobalite)	14464-46-1	10mg/m ³ (respirable Cristobalite) - OSHA PEL 2% SiO_2 + 2% [PEL - Permissible Exposure Limit]	5-15% Typical

(Refer to NIOSH analytical method #7500 for sampling silica dusts.)

III. PHYSICAL DATA

BOILING POINT: Not applicable

SPECIFIC GRAVITY ($\text{H}_2\text{O}=1$): 2.3

VAPOR PRESSURE: Not applicable

MELTING POINT: Not applicable

VAPOR DENSITY: Not applicable

EVAPORATION RATE: Not applicable

SOLUBILITY IN WATER: <2%

APPEARANCE AND ODOR: Odorless, buff to pink

IV. FIRE AND EXPLOSION DATA

FLASH POINT: Nonflammable FLAMMABLE LIMITS: Nonflammable LEL: NA UEL: NA

EXTINGUISHING MEDIA: Nonflammable

SPECIAL FIRE FIGHTING PROCEDURES: Nonflammable

UNUSUAL FIRE AND EXPLOSION HAZARDS: Nonflammable

V. HEALTH HAZARDS

SUMMARY: Exposure to quantities of crystalline silica in excess of the PEL or TLV listed above is a known cause of silicosis, a progressive sometimes fatal lung disease.

Although silicosis is a noncancerous lung disease, in 1987 the International Agency for Research on Cancer (IARC) issued Monograph 42, a review of "Silica and Some Silicates." The Monograph (report) states that there is "sufficient evidence" that crystalline silica can cause cancer in experimental animals, and "limited evidence" that crystalline silica can cause cancer in humans. Subsequently, in Supplement 7, IARC has concluded that crystalline silica is a "probable carcinogen" (a substance which causes cancer). The terms "sufficient evidence", "limited evidence" and "probable carcinogen" are defined in the Monograph and the Supplement. Eagle-Picher Minerals, Inc. is currently in the process of evaluating the Monograph and the health effects of diatomaceous earth. Information will be made available as studies are completed. A copy of the Monograph will be made 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 (BACK)

V. HEALTH HAZARDS - CONTINUED

ACUTE HEALTH EFFECTS: Upper respiratory irritant - may cause coughing or throat irritation.

CHRONIC HEALTH EFFECTS: Inhalation of 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) recommended by OSHA over an extended number of years may cause silicosis, a progressive sometimes fatal lung disease. Although silicosis is a noncancerous lung disease, crystalline silica has been determined by IARC to be a 'probable carcinogen' (a substance which causes cancer). Crystalline silica has not been classified as a carcinogen by OSHA or NTP.

ROUTES OF ENTRY: Inhalation

TARGET ORGANS: Lungs

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

INHALATION - Acute overexposure can cause dryness of the nasal passages and congestion of the upper respiratory system

SKIN - May cause dryness; not absorbed by the skin

INGESTION - Not intended for ingestion - earthy taste and texture

EYES - Temporary irritation or inflammation

FIRST AID PROCEDURES:

INHALATION - Remove to fresh air

SKIN - None necessary - if dryness occurs, use moisture renewing lotions

INGESTION - Short term exposures not considered harmful - drink water to reduce bulk and drying effects.

EYES - Wash with generous quantities of water. Consult a physician if irritation persists.

VI. REACTIVITY DATA

STABILITY: Product is stable

INCOMPATIBILITY: Hydrofluoric acid - silica may react violently with Hydrofluoric acid.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: None known

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None known

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Vacuum clean spillage, wet sweep or wash away. Avoid creating dust.

WASTE DISPOSAL METHOD: Non-biodegradable, use solid waste disposal common to landfill type operations or similar disposal or in slurry to sumps. Not considered a hazardous waste under RCRA (40CFR Part 261).

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid creating dust, repair or properly dispose of broken bags.

OTHER PRECAUTIONS: Not normally necessary

VIII. CONTROL MEASURES

RESPIRATORY PROTECTION: 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 with valve. 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.

VENTILATION: Local - control within the recommended TLV. Refer to ACGIH publication "Industrial Ventilation" or similar publications for the design of ventilation systems.

PROTECTIVE GLOVES: Not normally necessary - use if irritation or excessive dryness occurs.

EYE PROTECTION: Not normally necessary - use when windy conditions exist.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Not normally necessary

WORK/HYGIENIC PRACTICES: Avoid creating dust, maintain good housekeeping practices, and supply proper respiratory protection.