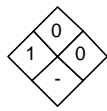


MATERIAL SAFETY DATA SHEET

 **EAGLE – PICHER MINERALS, INC.**

DATE ISSUED: November 18, 1985	DATE REVISED: July 1, 2001	REVISION NO: 8
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SECTION I: MATERIAL IDENTIFICATION AND USE

MATERIAL NAME: MN-19, 21, 23, 29, 31, 32, 33, 35, 36, 37, 39, 41, 43, 47, 51, 53, 84, 84 Fines, and N-270	NFPA  4-Extreme 3-High 2-Moderate 1-Slight 0-Insignificant
MANUFACTURER'S NAME: Eagle-Picher Minerals, Inc.	
STREET ADDRESS: 9785 Gateway Drive, Suite 1000	
CITY: Reno STATE: Nevada ZIP: 89511	HMS * Health 0 Flammability 0 Reactivity E Protective Equipment * REFER TO DATA ON MSDS
EMERGENCY TELEPHONE NO: (775) 824-7600 CHEMICAL FORMULA: SiO ₂	
CHEMICAL NAME: Diatomaceous Earth, Natural TRADE NAME: Celatom	
CHEMICAL FAMILY: Amorphous Silica MATERIAL USE: Filler	

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, Natural	100%	61790-53-2	10 mg/m ³ total dust for products containing < 1% quartz	Not available
Crystalline Silica (Quartz)	< 1%	14808-60-7	See above	Not available

For sampling silica dusts refer to NIOSH Analytical Method 7500 or OSHA method ID 142

SECTION III: PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: Solid	ODOR AND APPEARANCE: Odorless, buff to off-white powder	SPECIFIC GRAVITY: 2.0	BOILING POINT: Not Applicable
VAPOR PRESSURE (MM): Not Applicable	VAPOR DENSITY: Not Applicable	pH: 6-8 (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: Not Applicable	SPECIAL PROCEDURES: Not Applicable

SECTION V – HEALTH HAZARDS

SUMMARY: Natural diatomaceous earth (Kieselguhr) contains small quantities (typically <1%) of 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 of 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 "There is inadequate evidence in experimental animals for the carcinogenicity of uncalcined diatomaceous earth". It further noted that "There is inadequate evidence in humans for the carcinogenicity of amorphous silica" and therefore it was rated as "not classifiable as to its carcinogenicity to humans (Group 3)". Natural diatomaceous is predominantly amorphous silica.

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)

PAGE 2	MATERIAL NAME / IDENTIFIER: MN-19, 21, 23, 29, 31, 32, 33, 35, 36, 37, 39, 41, 43, 47, 51, 53, 84, 84 Fines, and N-270	
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 dust in excess of the Threshold Limit Value (TLV) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH) or an extended number of years may cause pneumoconiosis. Pneumoconiosis is a disabling lung disease which may be progressive and, on rare occasions, may ultimately be fatal. IARC - "There is inadequate evidence in experimental animals for the carcinogenicity of uncalcined diatomaceous earth". This product contains small quantities (<1%) of crystalline silica, which in inhaled forms from occupational sources was rated in Group 1, carcinogenic to humans. NTP - "Silica, crystalline (respirable)" – "known to be a human carcinogen" OSHA - Has not classified crystalline silica as a carcinogen		
SECTION VI – REACTIVITY DATA		
CHEMICAL STABILITY: YES X NO	INCOMPATIBILITY TO OTHER SUBSTANCES YES X 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: Respirators fitted with filters certified to standard 42CFR84 under series N95 should be worn when dust is present. If the dust concentration is less than ten (10) times the Permissible Exposure Limit (PEL) use a quarter or half-mask respirator with a N95 dust filter or a single use dust mask rated N95. If dust concentration is greater than ten (10) times and less than fifty (50) times the PEL, a full-face piece respirator fitted with replaceable N95 filters is recommended. If dust concentration is greater than fifty (50) and less than two hundred (200) times the PEL use a power air-purifying (positive pressure) respirator with a replaceable N95 filter. If dust concentration is greater than two hundred (200) times the PEL use a type C, supplied air respirator (continuous flow, positive pressure), with full face piece, 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 261).		
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.		
PREPARED BY: Patrick T. Flynn, Jr.	TITLE: Director - Government Affairs	
PHONE NUMBER: (775) 824-7650	DATE: July 1, 2001	