

## **MATERIAL SAFETY DATA SHEET**

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|---|---|---|--------------------------|------------------------|----------------|--|
| SECTION 1: PRODUCT                            | AND CO  | MPANY IDENTIFICA                                    | ATION                    |                        |                |  |
| PRODUCT TRADE NAME                            | CelaPerl®   |   |                          |                        |                |  |
| MANUFACTURER                                  | EP Minera   | ls, LLC., 9875 Gateway Dr., Suit                    | e 1000, Reno, NV 89521   |                        |                |  |
| TELEPHONE NO.                                 | (775) 824 7   | 7600 (Monday – Friday 8:00 am I                     | PST – 5:00 pm PST)       |                        |                |  |
| CHEMICAL NAME                                 | Sodium Po   | tassium Aluminum Silicate                           |                          |                        |                |  |
| CHEMICAL FAMILY                               | Silicate  |   |                          |                        |                |  |
| MATERIAL USE                                  | Filter aid, Functional additive   |   |                          |                        |                |  |
| DATE OF PREPARATION                           | April 1, 2010   |   |                          |                        |                |  |
| SECTION 2: HAZARDS                            | IDENTIF   | ICATION   |                          |                        |                |  |
| EMERGENCY OVERVIEW:<br>Appearance//Color/Odor | A white to off-white, low density powder. There is no distinctive odor.   |   |                          |                        |                |  |
| OSHA REGULATORY STATUS                        | This materi   | al is not considered hazardous b                    | y the OSHA Hazard Commur | nication Standard (290 | CFR 1910.1200) |  |
| POTENTIAL HEALTH EFFECTS                      | See below   | See below and Section 11 for additional information |                          |                        |                |  |
| Likely Routes of Exposure                     | See below   |   |                          |                        |                |  |
| EYE   | May cause irritation (tear formation and redness) if dust gets in eyes.   |   |                          |                        |                |  |
| SKIN  | Not absorbed by the skin, but may cause dryness if prolonged exposure.  |   |                          |                        |                |  |
| INGESTION                                     | Ingestion of small to moderate quantities is not considered harmful, but may cause irritation of the mouth, throat and stomach.   |   |                          |                        |                |  |
| INHALATION                                    | Acute inhalation can cause dryness of the nasal passage and lung congestion, coughing and general throat irritation. Chronic inhalation of dust should be avoided.  |   |                          |                        |                |  |
| CHRONIC EFFECTS                               | Perlite is a naturally occurring volcanic glass consisting of fused sodium – potassium – aluminum silicate. Tests conducted on Celatom Perlite have not identified crystalline silica as being present above the detection limit (0.05%).  Although there are no published reports of adverse health effects from exposure to perlite dust, dust levels should be maintained below the OSHA Permissible Exposure Limit for perlite and respirators used when airborne dust is |   |                          |                        |                |  |
| CONDITIONS AGGRAVATED BY EXPOSURE             | Pre-existing diseases of the upper respiratory tract and lung such as bronchitis, emphysema, and asthma.  |   |                          |                        |                |  |
| ENVIRONMENTAL EFFECTS                         | There are no significant environmental effects.   |   |                          |                        |                |  |
| SECTION 3: COMPOSIT                           | TION / IN   | FORMATION ON INC                                    | GREDIENTS                |                        |                |  |
| INGREDIENT IDENTIFICATION                     |   | APPROXIMATE<br>CONCENTRATION (%)                    | C.A.S. NUMBERS           | EINECS                 | R Factors      |  |
| Perlite                                       |   | 100%  | 93763-70-3               | Not listed             | R48/20         |  |
| SECTION 4: FIRST AID                          | MEASU   | RES   |                          |                        | 1              |  |
|   | Flush eyes with generous quantities of water or eye rinse solution. Consult physician if irritation persists.   |   |                          |                        |                |  |
| EYE   |   | Use moisture renewing lotions if dryness occurs.    |                          |                        |                |  |
| SKIN  |   | re renewing lotions if dryness oc                   | ccurs.                   |                        |                |  |
|   | Use moistu  | re renewing lotions if dryness oc                   |                          |                        |                |  |
| SKIN  | Use moistu<br>Drink gene  |   | bulk and drying effects. |                        |                |  |
| SKIN<br>INGESTION                             | Use moistu<br>Drink gene  | rous amounts of water to reduce                     | bulk and drying effects. |                        |                |  |

| MATERIAL NAME                             | CelaPerl®   |   |                        | Page 2 of 4                             |                        |
|---|---|---|------------------------|---|------------------------|
| SECTION 5: FIRE FIGHT                     | TING M  | EASURES   |                        |   |                        |
| FLAMMABILITY                              | This mate   | erial is not flammable.   |                        |   |                        |
| EXTINGUISHING MEDIA                       | Not applic  | cable, the material is not f  | lammable.              |   |                        |
| FIRE-FIGHTING PROCEDURES                  | Not applic  | cable, the material is not f  | lammable.              |   |                        |
| PROTECTIVE EQUIPMENT                      | Not applic  | cable, the material is not f  | lammable               |   |                        |
| HAZARDOUS COMBUSTION PRODUCTS             | Not applie  | cable, the material does no   | ot combust.            |   |                        |
| SPECIFIC PHYSICAL AND<br>CHEMICAL HAZARDS | Not applic  | Not applicable, the material is not flammable.                      |                        |   |                        |
| EXPLOSION DATA                            | Not applic  | cable, the material is not e  | explosive.             |   |                        |
| <b>SECTION 6: ACCIDENT</b>                | AL REL  | EASE MEASUR   | ES                     |   |                        |
| PERSONAL PRECAUTIONS                      | If dust is  | present, use respirator fitte                                       | ed with particulate    | filter as specified in Section 8. Prote | ect eyes with goggles. |
| ENVIRONMENTAL PRECAUTIONS                 | This mate   | This material is not a significant environmental concern.           |                        |   |                        |
| CONTAINMENT AND CLEANUP                   | Vacuum (  | Vacuum clean spillage, wet sweep or wash away. Avoid creating dust. |                        |   |                        |
| SECTION 7: HANDLING AND STORAGE           |   |   |                        |   |                        |
| HANDLING                                  | Minimize dust generation. Avoid contact with eyes. Avoid breathing dust. Repair or dispose of broken bags.  |   |                        |   |                        |
| STORAGE                                   | Store in a dry place to maintain packaging integrity and product quality. Do not store near hydrofluoric acid. Observe all label precautions and warnings.  |   |                        | r hydrofluoric acid.                    |                        |
| SECTION 8: EXPOSURI                       | E CONT  | ROLS / PERSON   | NAL PROTE              | CTION                                   |                        |
| EXPOSURE GUIDELINES:                      |   |   |                        |   |                        |
| Component                                 |   | OSHA PEL  | ACGIH TLV              | MSHA PEL                                | NIOSH REL              |
| Diatomaceous Earth, Natural (kieselguhr)  |   | 15 mg/m <sup>3</sup> total dust for products containing < 1% quartz | 10 mg/m³ total<br>dust | 5 mg/m <sup>3</sup>                     | 6 mg/m <sup>3</sup>    |
| ENGINEERING CONTROLS                      | Local – Control dust within recommended TLV/PEL. Refer to ACGIH publication "Industrial Ventilation" or similar publications for design of ventilation systems.   |   |                        | al Ventilation" or similar              |                        |
| PERSONAL PROTECTIVE EQUIPMENT:            | See below   |   |                        |   |                        |
| EYE / FACE                                | Goggles to protect from dust  |   |                        |   |                        |
| SKIN                                      | No special equipment is needed.   |   |                        |   |                        |
| RESPIRATORY                               | 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. |   |                        |   |                        |
| GENERAL HYGIENE                           | Avoid breathing dust. Avoid contact with eyes. Wash hands after handling and before eating or drinking.   |   |                        |   |                        |
| For sampling silica dusts refer to NIO    | SH Analytic   | al Method 7500 or OSHA  | method ID 142          |   |                        |

| MATERIAL NAME                              | CelaPerl®  |   |                       | Page 3 of 4  |  |
|--|--|---|-----------------------|--------------|--|
| SECTION 9: PHYSICAL                        | AND CHEMICAL PRO   | PERTIES   |                       |              |  |
| APPEARANCE, COLOR                          | White to off white powder  | ODOR  | Odorl                 | ess          |  |
| PHYSICAL STATE                             | Solid  | pH (10% SUSPENSION)   | 7                     |              |  |
| VAPOR PRESSURE                             | Not applicable   | VAPOR DENSITY   | Not applicable        |              |  |
| BOILING POINT                              | Not applicable   | MELTING POINT   | > 800° C              |              |  |
| FLASH POINT                                | Not applicable   | FLAMMABILITY  | Not applicable        |              |  |
| FLAMMABILITY LIMITS                        | Not applicable   | AUTOIGNITION TEMPERATURE  | Not applicable        |              |  |
| DECOMPOSITION<br>TEMPERATURE               | > 800° C   | SPEC. GRAVITY / REL.<br>DENSITY   | 2.3                   |              |  |
| EVAPORATION RATE                           | Not applicable   | COEFF. – WATER / OIL  | Not applicable        |              |  |
| ODOR THRESHOLD                             | Not applicable   | SOLUBILITY – WATER  | < 19                  | %            |  |
| PARTITION COEFFICIENT                      | Not applicable   |   |                       |              |  |
| SECTION 10: STABILIT                       | Y AND REACTIVITY   |   |                       |              |  |
| CHEMICAL STABILITY                         | Material is stable.  |   |                       |              |  |
| PHYSICAL HAZARDS                           | Material is not reactive.  |   |                       |              |  |
| CONDITIONS TO AVOID                        | Not applicable   |   |                       |              |  |
| INCOMPATIBLE MATERIALS                     | Hydrofluoric acid. Products containing silica may react violently with hydrofluoric acid.  |   |                       |              |  |
| HAZARDOUS DECOMPOSITION PRODUCTS           | Not applicable   |   |                       |              |  |
| SECTION 11: TOXICOL                        | OGICAL INFORMATIO  | N   |                       |              |  |
| CHRONIC EFFECTS /<br>CARCINOGENICITY       | concentrations of perlite dust or a  | adverse health effects from exposure to any other particulates for prolonged periceray diffraction have not identified any ph | ods of time may cause | lung damage. |  |
| ROUTE OF EXPOSURE                          | Inhalation (chronic)   |   |                       |              |  |
| SYMPTOMS                                   | Not available  |   |                       |              |  |
| LD50                                       | Not available  |   |                       |              |  |
| IMMEDIATE AND DELAYED<br>EFFECTS           | No immediate effects. See CHRONIC EFFECTS for potential long-term effects when prolonged exposure to levels of dust in excess of OSHA PEL and ACGIH TLV. |   |                       |              |  |
| CORROSIVENESS,<br>SENSITIZATION, IRRITANCY | Not applicable   |   |                       |              |  |
| REPRODUCTIVE TOXICITY                      | Not available  |   |                       |              |  |
| TERATOGENICITY,<br>MUTAGENICITY            | Not available  |   |                       |              |  |
| TOXICOLOGICALLY<br>SYNERGISTIC PRODUCTS    | Inhaled smoke from tobacco products (chronic).   |   |                       |              |  |
| SECTION 12: ECOLOG                         | ICAL INFORMATION   |   |                       |              |  |
| CHARACTERISTICS                            | Non-biodegradable, inert, with lit   | tle potential for bioaccumulation.  |                       |              |  |
| POSSIBLE EFFECTS                           | These products have no demons  | strated toxicity in regards to aquatic or tel   | rrestrial life.       |              |  |

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| MATERIAL NAME                      | CelaPerl®   | Page 4 of 4                                      |  |  |  |  |
|------------------------------------|---|--|--|--|--|--|
|                                    | SAL CONSIDERATIONS  | 1 ago 1 oi 1                                     |  |  |  |  |
|                                    | If this material as supplied becomes a waste, use solid waste disposal common to landfill type o  | nerations or in slurry to                        |  |  |  |  |
| WASTE DISPOSAL                     | sumps. Not considered a hazardous waste under RCRA (4OCFR Part 261).  |  |  |  |  |  |
| PACKAGING DISPOSAL                 | Dispose of in accordance with applicable laws and regulations, typically solid waste disposal common to landfill type operations.                                     |  |  |  |  |  |
| SECTION 14: TRANS                  | SPORT INFORMATION   |  |  |  |  |  |
| BASIC SHIPPING INFORMATION         | TION DOT shipping classification 55 (no restrictions). Technical name is "Perlite".   |  |  |  |  |  |
| ADDITIONAL INFORMATION             | No special requirements or placarding necessary.  | No special requirements or placarding necessary. |  |  |  |  |
| <b>SECTION 15: REGU</b>            | LATORY INFORMATION  |  |  |  |  |  |
| U.S. FEDERAL:                      |   |  |  |  |  |  |
| OSHA                               | Perlite is not classified as a toxic and hazardous substance.   |  |  |  |  |  |
| TSCA                               | Not listed.   |  |  |  |  |  |
| CERCLA                             | Perlite is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR 302. |  |  |  |  |  |
| SARA TITLE III                     | Not listed.   |  |  |  |  |  |
| NTP                                | Not listed.   |  |  |  |  |  |
| INTERNATIONAL:                     |   |  |  |  |  |  |
| IARC                               | Not classified.   |  |  |  |  |  |
| WHMIS Classification               | These products are not regulated by WHMIS   |  |  |  |  |  |
| WHMIS Ingredient Disclosure List   | Crystalline silica Included for disclosure at 1% or greater, does not apply for these products.   |  |  |  |  |  |
| EEC Label (Risk/Safety<br>Phrases) | R48/20, S22, S38  |  |  |  |  |  |
| SECTION 16: OTHER INFORMATION      |   |  |  |  |  |  |
|                                    | * Health  |  |  |  |  |  |
|                                    | 4-Extreme 3-High 2-Moderate 1-Slight  0 Flammability  0 Reactivity  |  |  |  |  |  |
|                                    | 크-Slight 이 Reactivity 의 기 의 기 의 기 의 기 의 기 의 기 의 기 의 기 의 기 의   |  |  |  |  |  |
|                                    | E Protective Equipment  |  |  |  |  |  |
| ORIGINAL ISSUE DATE                | May 26, 1993  |  |  |  |  |  |
| REVISION DATE                      | April 1, 2010   |  |  |  |  |  |
| REVISION NO.                       | 6   |  |  |  |  |  |

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