

SAFETY DATA SHEET

MAPEP MaS Performance Standards

U.S. Department of Energy – Radiological and Environmental Sciences Laboratory

SDS DATE: 07/31/2024

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MAPEP Inorganic and Radionuclides in Soil Performance Standards

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CHEMICAL NAME: Soil

PRODUCT USE: Performance Evaluation Program – Analytical Standard
PREPARED BY: Radiological and Environmental Sciences Laboratory

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May be harmful by inhalation, skin absorption or ingestion. Flush thoroughly with water for external contact.

ROUTES OF ENTRY: May be harmful by inhalation, skin absorption or ingestion.

POTENTIAL HEALTH EFFECTS

EYES: Can cause eye irritation.

SKIN: Can cause skin irritation.

INGESTION: May cause gastrointestinal problems.

INHALATION: Effects may be delayed. May cause irritation of the respiratory tract. May aggravate or cause coughing, wheezing, shortness of breath and pulmonary edema.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: INEEL Subsurface Soil with trace inorganic and radionuclide constituents

Constituents which have been determined to be health hazards (arsenic, barium, cadmium, chromium, lead, selenium, silver) comprise <1% of sample composition; constituents which have been determined to be carcinogens (cadmium, chromium, nickel) comprise <0.1% of sample composition (cf. 29 CFR 1910.1200 (g)(1)(c)(1)). There is no evidence that these constituents will be released from the sample in concentrations which would exceed an established OSHA PEL or the ACGIH TLV, or could present a health hazard to employees (cf. 29 CFR 1910.1200 (g)(1)(c)(2)). None of these constituents have been determined to present a physical hazard when present in the sample (cf. 29 CFR 1910.1200 (g)(1)(c)(3)).

SECTION3 NOTES: Trace inorganic and radionuclides constitutes are less than 1% composition by weight.
MAPEP samples are typically not classified as radioactive (total activity < 2 nCi/gram).

SECTION 4: FIRST AID MEASURES

In case of contact:

EYES: Flush eyes continuously with water for 15 – 20 minutes.

SKIN: Flush skin continuously with water for 15 – 20 minutes. Use soap and water to cleanse skin.

INGESTION: Do not administer liquids or induce vomiting to an unconscious or convulsing person. Get medical attention immediately.

INHALATION: If inhaled, remove patient to fresh air.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Administer oxygen if patient is having difficulty breathing. If patient has stopped breathing administer artificial respirations. If patient is in cardiac arrest administer CPR. Continue life supporting measures until medical assistance has arrived. Remove and wash contaminated clothing. If patient is exhibiting signs of shock – keep warm and quiet. If patient is vomiting – watch closely to make sure airway does not become obstructed by vomit.

SECTION 4 NOTES: An antidote is a substance intended to counteract the effect of a poison. It should be administered by a physician for trained emergency personnel. Medical advice can be obtained from a physician or trained emergency personnel. Medical advice can be obtained from a POISON CONTROL CENTER. For the main carrier: soil.

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SECTION 5: FIRE-FIGHTING MEASURES

For the carrier – soil.

The main product is non-flammable.

FLASH POINT: °C: NA

AUTOIGNITION TEMPERATURE: °C: NA

NFPA HAZARD CLASSIFICATION

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

EXTINGUISHING MEDIA: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. DO NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent) and full protect gear. Strong oxidizer. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Vapors may accumulate in confined spaces.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Use proper personal protective equipment as indicated in Section 8.

SECTION 6 NOTES: For spills/leaks: The addition of dry absorbent material, (e.g., dry sand or earth), may help clean up spills. Place into a chemical waste container. Use water spray to disperse the gas/vapor. A vapor suppressing foam may be used to reduce vapors.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Store in a cold, dry, well-ventilated area away from incompatible substances. Sample should be stored in accordance with EPA recommendations for the type of analyses to be performed. Typically stored in a freezer.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

RESPIRATORY PROTECTION: No respiratory protection required under normal circumstances. Should situation arise where abnormal amounts of dust are created, wear a NIOSH/MSHA or European Standard EN 149 approved full-face piece airline respirator in the positive pressure mode with emergency escape provisions. Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard 149 approved respirator when necessary.

EYE PROTECTION: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

SKIN PROTECTION: Wear appropriate protective gloves and clothing to prevent skin exposure.

EXPOSURE GUIDELINES:

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: dark to light brown free flowing powder
ODOR: mild organic smell
PHYSICAL STATE: solid
pH AS SUPPLIED: not available
BOILING POINT: not applicable
MELTING POINT: Not Available
FREEZING POINT: not applicable

VAPOR PRESSURE (mmHg): not applicable
VAPOR DENSITY (AIR = 1): not applicable.
SPECIFIC GRAVITY (H₂O = 1): 1.5 – 2.0 @ 25°C g/cc
EVAPORATION RATE: not available
SOLUBILITY IN WATER: not soluble in water
PERCENT SOLIDS BY WEIGHT: 100%
PERCENT VOLATILE: < 1%
VOLATILE ORGANIC COMPOUNDS (VOC): <0.1%
VISCOSITY: NOT AVAILABLE

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID (STABILITY): Incompatible materials.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Has not been reported.

SECTION 11: TOXICOLOGICAL INFORMATION

Constituents which have been determined to be health hazards (arsenic, barium, cadmium, chromium, lead, selenium, silver) comprise <1% of sample composition; constituents which have been determined to be carcinogens (cadmium, chromium, nickel) comprise <0.1% of sample composition (cf. 29 CFR 1910.1200 (g)(1)(c)(1)). There is no evidence that these constituents will be released from the sample in concentrations which would exceed an established OSHA PEL or the ACGIH TLV, or could present a health hazard to employees (cf. 29 CFR 1910.1200 (g)(1)(c)(2)). None of these constituents have been determined to present a physical hazard when present in the sample (cf. 29 CFR 1910.1200 (g)(1)(c)(3)).

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate: No information found.

Environmental Toxicity: No information found.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA HAZARD CLASS: Not applicable

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SECTION 14: TRANSPORT INFORMATION

Soil - Not Regulated

SECTION 15: REGULATORY INFORMATION

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0 Other: Oxidizer

Label Hazard Warning: POISON! DANGER!
MAY BE FATAL IF SWALLOWED OR INHALED.
INHALATION MAY CAUSE LUNG DAMAGE.

Label Precautions:

Do not get in eyes, on skin, or on clothing.
Do not breathe vapor or mist.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep from contact with clothing and other combustible materials.
Store in a tightly closed container.
Remove and wash contaminated clothing promptly.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

PRODUCT USE: Laboratory Use Only – RESEARCH.

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