

SAFETY DATA SHEET

MAPEP RdF Air Filters

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

SDS DATE: 07/31/2024

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MAPEP 47 mm Air Filters for Radionuclide Performance Standard

MANUFACTURER: U.S. Department of Energy
DIVISION: Radiological and Environmental Sciences Laboratory
ADDRESS: Idaho Falls, ID 83401-4149

EMERGENCY PHONE: 208-526-2532
CHEMTREC PHONE: 208-526-1515
FAX PHONE: 208-526-2548

CHEMICAL NAME: Borosilicate Glass
CHEMICAL FAMILY: Glass Fiber, Glass microfiber
CAS NUMBER: 65997-17-3

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

SECTION 2: HAZARDS IDENTIFICATION

Limited evidence of carcinogenic effect. R37:P Irritating to the respiratory system. Undisturbed fibers constitute low risk. However, there is increased risk from disturbing the fibers such that airborne particles are produced.

OEL: Man-made mineral fiber – MEL 8 hour TWA 5 mg/m³ / STEL 15 min Not Available

EMERGENCY OVERVIEW: Glass fiber dusts may be harmful by inhalation or ingestion. Flush thoroughly with water for external contact.

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

POTENTIAL HEALTH EFFECTS

EYES: Can cause eye irritation.

SKIN: May cause skin irritation.

INGESTION: May result in irritation to the throat.

INHALATION: Not applicable unless material is ground to a fine powder. May irritate the upper respiratory tract or cause irritation to the eyes and skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Trace radionuclides on Whatman EPM 2000 47 mm air filters

Trace radionuclides which may be determined to be health hazards 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 3 NOTES: MAPEP samples are typically not classified as radioactive (total activity < 2 nCi/gram).

SECTION 4: FIRST AID MEASURES

In case of contact:

EYES: Get medical attention immediately. Flush eyes continuously with water for 15 – 20 minutes occasionally lifting the upper and lower lids.

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

INGESTION: Drink water if conscious. Get medical attention immediately.

ACUTE EFFECTS: May irritate the upper respiratory tract or cause irritation to the eyes and skin.

CHRONIC EFFECTS: Undisturbed fibers constitute low risk. However, there is increased risk from disturbing the fibers such that airborne particles are produced. This material has been identified as a possible human carcinogen.

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.

SAFETY DATA SHEET

MAPEP RdF Air Filters

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

MSDS DATE: 07/31/2024

SECTION 5: FIRE-FIGHTING MEASURES

For the carrier – glass fiber air filter.

The main product is non-flammable.

FLASH POINT: °C: NA

AUTOIGNITION TEMPERATURE: °C: NA

NFPA HAZARD CLASSIFICATION

HEALTH: 0

FLAMMABILITY: 0

REACTIVITY: 0

EXTINGUISHING MEDIA: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. DO NOT use straight streams of water.

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. Use water spray to keep fire-exposed containers cool. Substance is noncombustible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Sweep or vacuum up spills. Avoid creating dust. Place in closed sample container. Dispose of in an approved landfill according to Federal, State and Local Regulatory Agencies. Cover promptly to avoid dust blowing into the air.

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 cool, dry, well-ventilated area away from incompatible substances.

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: Respiratory protection not normally needed. If OSHA dust limits are exceeded, use NIOSH approved dust respirator. Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece 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: Constituents which have been determined to be health hazards 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)).

SAFETY DATA SHEET

MAPEP RdF Air Filters

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

MSDS DATE: 07/31/2024

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: white

ODOR: none

PHYSICAL STATE: solid

pH AS SUPPLIED: NA

BOILING POINT: NA

MELTING POINT: Not available

FREEZING POINT: NA

VAPOR PRESSURE (mmHg): NA

VAPOR DENSITY (AIR = 1): NA

SPECIFIC GRAVITY (H₂O = 1): 2.23 grams/cubic centimeter

EVAPORATION RATE: not available

SOLUBILITY IN WATER: not soluble in water

PERCENT SOLIDS BY WEIGHT: 100%

PERCENT VOLATILE: not available

VOLATILE ORGANIC COMPOUNDS (VOC): <0.1%

VISCOSITY: NA

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID (STABILITY): Incompatible materials.

INCOMPATIBILITY (MATERIAL TO AVOID): Hydrofluoric acid and sodium hydroxide.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: None

HAZARDOUS POLYMERIZATION: None.

SECTION 11: TOXICOLOGICAL INFORMATION

Effects of Overexposure: Glass dust may irritate eyes, skin, nose, throat, stomach or respiratory tract. Rubbing may cause abrasion or skin irritation. Glass dust inhaled in very large amounts can cause damage to the lungs.

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: None

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: Not regulated

DOT Label: None

Technical Shipping Name: None

DOT Placard: None

DOT Hazard Class: None

UN/NA Number: None

SAFETY DATA SHEET

MAPEP RdF Air Filters

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

MSDS DATE: 07/31/2024

SECTION 15: OTHER INFORMATION

OTHER INFORMATION:

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 0 Other: NONE

Label Hazard Warning: POISON! DANGER!

Label Precautions:

Do not get in eyes, on skin, or on clothing.
Do not breathe dusts.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep from contact with clothing.
Store in a tightly closed container.

Label First Aid:

Emergency and First Aid Procedures: Eye injuries from glass particles should be treated by a physician immediately. Cuts and abrasions should be treated promptly with thorough cleansing of the affected area. If particles are inhaled, move person to a non-contaminated area. Get medical assistance if irritation persists. Ingestion does not require first aid.

PRODUCT USE: Laboratory Use Only – RESEARCH.

DISCLAIMER: The US Department of Energy, Radiological and Environmental Sciences Laboratory provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.