



MATERIAL SAFETY DATA SHEET

POWERPAC

PREMIUM

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ADA Environmental Solutions, Inc.
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Tel: 303-734-1727 Fax: 303-734-0330

Emergency Telephone Number: For emergency assistance involving chemicals please call CHEMTREC 800-424-9300.

Product Name: POWERPAC *PREMIUM*

Product Description: Powdered carbon sorbent for vapor mercury sorption

2. COMPOSITION / INFORMATION ON INGREDIENTS

| | | |
|------------------------|-------------------|--------------|
| Activated Carbon | CAS No. 7440-44-0 | > 90% by wt. |
| Proprietary impregnant | | < 10% by wt. |

3. HAZARDS IDENTIFICATION

Emergency Overview: Powdered activated carbon may affect the respiratory and cardiovascular system.

Warning: *Wet activated carbon depletes oxygen and therefore dangerously low levels of oxygen may be encountered in confined spaces. Work procedures for potentially low oxygen areas should be followed.*

Routes of Entry: Inhalation, eye or skin contact, ingestion

Health Effects: Short-Term Exposure

- Inhalation: May cause mild irritation of respiratory tract.
- Ingestion: May cause mild irritation of gastrointestinal tract.
- Eye Contact: May cause irritation, redness and pain.
- Skin: May cause mild skin irritation and redness.

Chronic Effects: Prolonged inhalation of excessive dust may cause pulmonary disorders.

Medical Conditions Aggravated by Exposure: No information

Carcinogenicity: Not listed by ACGIH, IARC, NTP or California Prop. 65. Contains bound silica which may be considered a carcinogen of the lungs.

Hazard Rating: NFPA HEALTH=1 / FLAMMABILITY=1 / REACTIVITY=0

For further information refer to Section 15.

4. FIRST AID MEASURES

Emergency and First Aid Procedure:

- Inhalation: Remove to fresh air. Get medical attention for any breathing difficulty.
- Ingestion: Give several glasses of water to dilute. Seek medical attention if large quantities were ingested.
- Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops.
- Skin: Wash exposed areas with water and soap. Get medical attention if irritation develops. Wash clothing before reuse.

5. FIRE-FIGHTING MEASURES

Fire is possible at elevated temperatures by contact with an ignition source or by self-heating when large quantities are stored at elevated temperatures or by contact with strong oxidizers. Activated carbon tends to burn slowly without producing smoke or flame. Wet activated carbon depletes oxygen from the air.

Fire Extinguishing Media: Water spray, dry chemical, alcohol foam or carbon dioxide.

Fire Fighting Instructions: If possible to do safely, move smoldering activated carbon to a non-hazardous area, preferably out doors.

Fire Fighting Equipment: Fire fighting personnel should wear full protective equipment including self-contained breathing apparatus (SCBA).

Hazardous Combustion Products: Material allowed to smolder for long periods in

enclosed spaces may produce carbon monoxide which may reach a lower explosive limit for carbon monoxide of 12.5% in air. In a fire, vapor halogens may be evolved.

Flammable Limits: LFL and UFL not applicable.

Explosion: Not considered to be an explosion hazard during normal use or storage.

6. ACCIDENTAL RELEASE MEASURES

Ventilate area of leak or spill. Clean up spill in a manner that does not disperse dust into the air. Wear protective clothing as described in Section 8 and avoid unnecessary exposure. If possible, recover spilled product for reuse.

This material in its original state is not a hazardous material or hazardous waste. Any spilled material that cannot be saved for recovery or recycling may be disposed of as an industrial waste in a facility permitted for non-hazardous wastes. Disposal of spilled material should be done in accordance with federal, state and local regulations.

7. HANDLING AND STORAGE

Keep in a closed, dry container or storage silo. Store in a cool, dry and well-ventilated area. Use with adequate exhaust ventilation to draw dust away from worker's breathing zones. Follow good handling procedures to minimize spills, airborne dust and accumulation of dusts on exposed surfaces.

Do not store near or allow contact with moisture or strong oxidizers.

Warning: *Wet activated carbon depletes oxygen and therefore dangerously low levels of oxygen may be encountered in confined spaces. Work procedures for potentially low oxygen areas should be followed.*

8. EXPOSURE CONTROLS AND PERSONAL PROTECTIVE MEASURES

Airborne Exposure Limits

Recommended 8 hr TWA based on silica dust:

*ACGIH TLV (Total): 2 mg/M³

*OSHA PEL (Respirable): 5 mg/M³

* Activated carbon not listed, based on graphite.

STEL: Not established

Engineering Controls: Keep dust exposure to a minimum with engineering and administrative controls. A local exhaust ventilation system is recommended to control emissions near the source.

Respiratory Protection: For conditions of use where exposed to airborne dust, an approved NIOSH/MSHA half-face respirator may be used.

Eye/Face Protection: Use chemical safety goggles or safety glasses with side shields to protect the eyes when handling. Eyewash station in work area is recommended.

Protective Gloves: Resistant to dust penetration.

Other Protective Equipment: Avoid skin contact. Wear appropriate dust resistant clothing. Wash contaminated clothing before reuse.

9. PHYSICAL DATA

| | |
|---|-----------------------------|
| Appearance..... | Black powder |
| Odor..... | Odorless |
| Solubility..... | Impregnant soluble in water |
| Specific Gravity..... | 0.50 – 0.65 |
| Density, lbs/ft ³ | 31.2 – 40.6 |
| Evaporation Rate (Butyl Acetate=1)..... | N/A |
| Vapor Pressure | N/A |
| Vapor Density..... | N/A |
| Freezing Point..... | N/A |
| Boiling Point | N/A |
| Melting Point | N/A |

N/A – not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of shipment, storage and use.

Hazardous Polymerization: Will not occur

Incompatibility: Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganates, etc., may cause rapid combustion.

Hazardous combustion products: Carbon monoxide, halide and vapor halogens may evolve.

Conditions to avoid: heat, incompatibles

11. TOXICOLOGICAL INFORMATION

Non-toxic in its original state. Spent carbon may exhibit characteristics of adsorbed materials.

12. ECOLOGICAL INFORMATION

Environmental Fate: No information available.

Environmental Toxicity: No information available.

13. DISPOSAL CONSIDERATIONS

This material in its original state is not a hazardous material or hazardous waste. Any spilled material that cannot be saved for recovery or recycling may be disposed of as an industrial waste in a facility permitted for non-hazardous wastes.

When used for mercury sorption in most combustion flue gas and mixed with combustion residues such as fly ash, the spent product is typically not hazardous. However, in special situations the spent material could be a hazardous waste. Disposal should be done in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

DOT Class: Not regulated for transportation

| | |
|---------------------------|---|
| Shipping Name: | Activated carbon (not regulated for transportation) |
| Hazard Class: | N/A |
| Packaging Group: | N/A |
| Reportable Quantity (RQ): | N/A |
| Labels Required: | None |
| Placard: | None |

N/A – not applicable

15. REGULATORY INFORMATION

TSCA Inventory: Component materials including activated carbon are listed on the TSCA inventory.

CERCLA: None of the chemicals in this material have an RQ.

RCRA: Activated carbon in its original condition is not a hazardous waste.

SARA/SUPERFUND Section 302 Spill notification not required.
Not listed as an extremely hazardous substance.

Section 311/312 Hazard Categories

| | | |
|----------|----------------------------|-----|
| Health | Immediate (acute) | Yes |
| Health | Delayed (chronic) | No |
| Physical | Fire | No |
| Physical | Sudden Release of Pressure | No |
| Physical | Reactive | No |

Section 313 Not reportable under Section 313

Canada WHIMS This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHIMS Classification: Not Classified
DSL 6798

16. OTHER INFORMATION

Activated carbon should be stored away from direct heat sources and incompatibles (refer to Section 10).

ADA-ES recommends that respiratory protection be required whenever exposure to airborne dust is expected.

For Industrial Use Only

Emergency Assistance: For Emergency Assistance Involving Chemicals Call
CHEMTREC 800-424-9300.

Revision summary; Rev. 1.1 ANSI Format, NFPA rating, Airborne Exposure Limits
based on graphite.

NOTICE

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