



From: Mallinckrodt Baker, Inc.  
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24 Hour Emergency Telephone: 908-859-2151  
CHEMTREC: 1-800-424-9300

National Response in Canada  
CANUTEC: 613-996-6666

Outside U.S. And Canada  
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

## CARBON, ACTIVATED, POWDER

### 1. Product Identification

Synonyms: Charcoal, Activated  
CAS No.: 7440-44-0  
Molecular Weight: 12.01  
Chemical Formula: C  
Product Codes: E343, E345, E346

### 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Steam Activated Carbon	7440-44-0	100%	Yes
Quartz	14808-60-7	*	Yes

\* Product normally contains greater than 1% quartz.

### 3. Hazards Identification

#### Emergency Overview

**CAUTION! ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS. INHALATION CANCER HAZARD. CONTAINS QUARTZ WHICH CAN CAUSE CANCER. Risk of cancer depends upon duration and level of exposure.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Cancer)

Flammability Rating: 1 - Slight

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

## Potential Health Effects

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### **Inhalation:**

No adverse effects expected. May cause mild irritation to the respiratory tract.

### **Ingestion:**

No adverse effects expected. May cause mild irritation to the gastrointestinal tract.

### **Skin Contact:**

Not expected to be a health hazard from skin exposure. May cause mild irritation and redness.

### **Eye Contact:**

No adverse effects expected. May cause mild irritation, possible reddening.

### **Chronic Exposure:**

Prolonged inhalation of excessive dust may produce pulmonary disorders. Inhalation of quartz is classified as a human carcinogen. Chronic exposure can cause silicosis, a form of lung scarring that can cause shortness of breath, reduced lung function, and in severe cases, death.

### **Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

### **Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

### **Ingestion:**

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

### **Skin Contact:**

Not expected to require first aid measures. Wash exposed area with soap and water. Get medical advice if irritation develops.

### **Eye Contact:**

Wash thoroughly with running water. Get medical advice if irritation develops.

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## 5. Fire Fighting Measures

### **Fire:**

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. Activated carbon is difficult to ignite and tends to burn slowly (smolder) without producing smoke or flame. Wet activated carbon depletes oxygen from the air. Materials allowed to smolder for long periods in enclosed spaces, may produce amounts of carbon monoxide which may reach the lower explosive limit for carbon monoxide of 12.5% in air. Contact with strong oxidizers such as ozone or liquid oxygen may cause rapid combustion.

### **Explosion:**

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration 0.140 g/l.

### **Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

### **Special Information:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Warning! Spent product may have absorbed

hazardous materials.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Keep away from moisture and oxidizers. Avoid dust dispersal. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace.

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

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

- OSHA Permissible Exposure Limits (PELs) -

For Activated Carbon (graphite, synthetic):

total particulate = 15 mg/m<sup>3</sup> (TWA),

respirable fraction = 5 mg/m<sup>3</sup> (TWA).

For Silica: Crystalline Quartz:

total dust =  $30/(\%SiO_2 + 2)$  mg/m<sup>3</sup>

respirable fraction =  $10/(\%SiO_2 + 2)$  mg/m<sup>3</sup>.

- ACGIH Threshold Limit Values (TLVs) -

For Graphite, all forms except graphite fibers: 2 mg/m<sup>3</sup> (TWA).

For Quartz, respirable fraction: 0.025 mg/m<sup>3</sup>, A2 - Suspected Human Carcinogen.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:**

Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard.

These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

### **Skin Protection:**

Wear protective gloves and clean body-covering clothing.

### **Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Black powder.

**Odor:**

Odorless.

**Solubility:**

Insoluble in water.

**Specific Gravity:**

250-600 g/l

**pH:**

5.0-10.0

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

Sublimes.

**Melting Point:**

3550C (6422F)

**Vapor Density (Air=1):**

0.4

**Vapor Pressure (mm Hg):**

1 @ 3586C (6487F)

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**

Involvement in a fire causes formation of carbon dioxide and carbon monoxide.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc. may result in rapid combustion.

Avoid contact with strong acids.

**Conditions to Avoid:**

Moisture and incompatibles.

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## 11. Toxicological Information

**Toxicological Data:**

Activated Carbon: Investigated as a reproductive effector.

Quartz: Investigated as a tumorigen and mutagen.

**Carcinogenicity:**

Quartz: NIOSH considers this substance to be a potential occupational carcinogen.

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-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Steam Activated Carbon (7440-44-0)	No	No	None
Quartz (14808-60-7)	Yes	No	1

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## 12. Ecological Information

**Environmental Fate:**

No information found.

**Environmental Toxicity:**

No information found.

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## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----  
Ingredient TSCA EC Japan Australia  
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Steam Activated Carbon (7440-44-0) Yes Yes No Yes  
Quartz (14808-60-7) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----  
Ingredient Korea --Canada-- DSL NDSL Phil.  
-----  
Steam Activated Carbon (7440-44-0) Yes Yes No Yes  
Quartz (14808-60-7) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----  
Ingredient -SARA 302- -----SARA 313-----  
RQ TPQ List Chemical Catg.  
-----  
Steam Activated Carbon (7440-44-0) No No No No  
Quartz (14808-60-7) No No No No

-----\Federal, State & International Regulations - Part 2\-----  
Ingredient CERCLA -RCRA- -TSCA-  
261.33 8(d)  
-----  
Steam Activated Carbon (7440-44-0) No No No  
Quartz (14808-60-7) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**WARNING:**

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE

CANCER.

**Australian Hazchem Code:** None allocated.

**Poison Schedule:** None allocated.

**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.

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## 16. Other Information

**NFPA Ratings:** Health: **0** Flammability: **1** Reactivity: **0**

**Label Hazard Warning:**

CAUTION! ACTIVATED CARBON AFFECTS THE RESPIRATORY AND CARDIOVASCULAR SYSTEMS. INHALATION CANCER HAZARD. CONTAINS QUARTZ WHICH CAN CAUSE CANCER.

Risk of cancer depends upon duration and level of exposure.

**Label Precautions:**

Do not breathe dust.

Do not get in eyes, on skin, or on clothing.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

No Changes.

**Disclaimer:**

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