

Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Carbon, Activated Powder (MSDS No. P-19-6384)

Trade Names: Not Applicable.

Chemical Name: Carbon

Synonyms: Activated Carbon, Doped Activated Carbon, Brominated Activated Carbon

Chemical Family: Element, Group IV-A

Product Grades: None assigned.

Telephone: **Emergencies:** 1-800-645-4633*

Company Name: Praxair, Inc.

CHEMTREC: 1-800-424-9300*

39 Old Ridgebury Road

Routine: 1-800-PRAXAIR

Danbury, CT 06810-5113

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).*

2. Hazards Identification

EMERGENCY OVERVIEW

CAUTION! Combustible solid.

Affects the respiratory and cardiovascular systems.

May cause mild irritation to the respiratory and gastrointestinal tracts.

May cause mild irritation and redness to the skin.

Self-contained breathing apparatus and protective clothing may be worn by rescue workers.

Under ambient conditions, this is a black, odorless powder.

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

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

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

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

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

Effects of Repeated (Chronic) Overexposure. Prolong inhalation of excessive dust may produce pulmonary disorders.

Other Effects of Overexposure. None known.

Medical Conditions Aggravated by Overexposure. The skin irritating properties of this material may aggravate an existing dermatitis. Respiratory irritation may aggravate an existing asthma or other upper respiratory or pulmonary disease.

CARCINOGENICITY: This material is not listed by NTP, OSHA, or IARC.

POTENTIAL ENVIRONMENTAL EFFECTS: None known. For further information, see section 12, Ecological Information.

3. Composition/Information on Ingredients

See section 16 for important information about mixtures.

COMPONENT	CAS NUMBER	CONCENTRATION
Activated Carbon	7440-44-0	90-100%
Sodium Bromide	7647-15-6	1-3%
Inert Ingredients	Not available.	0-10%

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Get immediate medical attention, even if no symptoms are present. Call a physician.

SKIN CONTACT: In case of skin contact, flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing, shoes, and gloves. Call a physician.

SWALLOWING: Keep the victim calm, and get immediate medical aid. If conscious, the victim may be given water. Do not induce vomiting unless directed to do so by medical personnel.

EYE CONTACT: Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN: *There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.*

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Because of this material's low volatile matter content, combustion in air is limited to smoldering fires.

SUITABLE EXTINGUISHING MEDIA: CO₂, water spray, dry chemical, or alcohol foam

PRODUCTS OF COMBUSTION: Carbon dioxide, carbon monoxide

PROTECTION OF FIREFIGHTERS: CAUTION! Combustible solid. Evacuate all personnel from danger area. Use self-contained breathing apparatus and protective clothing where needed. Immediately deluge containers with water spray from maximum distance until cool; then move them away from fire area if without risk. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

Specific Physical and Chemical Hazards. Contact with strong oxidizers may cause rapid combustion.

Protective Equipment and Precautions for Firefighters. Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION! Combustible solid.

Personal Precautions. Do not breathe dust. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus and protective clothing where needed. Remove all sources of ignition if without risk. Reduce dust and prevent scattering by moistening with water. Ventilate area or move container to a well-ventilated area and wash spill site after material pick-up is complete.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: May irritate skin, eyes, and respiratory tract. Use only with adequate ventilation or respiratory protection. Do not get solid or dust in eyes, on skin, or on clothing. Keep away from oxidizing agents. Have safety showers and eyewash fountains immediately available. After working with this material, wash face and hands thoroughly with soap and water before eating, drinking, smoking, applying cosmetics, or using the toilet. Protect containers from damage. For other precautions in using this product, see section 16.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Store in a cool, dry place away from oxidizers and other flammables. Handle and store under an inert gas. Keep storage containers closed. Store only where temperature will not exceed 125°F (52°C). Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.

8. Exposure Controls/Personal Protection

COMPONENT	OSHA PEL	ACGIH TLV-TWA (2008)
Activated Carbon	15 mg/m ³ (Total); 15 mg/m ³ (Respiratory)	2 mg/m ³ *
Sodium Bromide	N.E. **	N.E. **
Inert Ingredients	N.E. **	N.E. **

*Graphite (all forms except graphite fibers)

**N.E.—Not Established.

TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

IDLH = Not available.

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust system with sufficient air flow velocity to keep dust below the recommended exposure limits in the worker's breathing zone.

Mechanical (General). Under certain conditions, general exhaust ventilation may be acceptable if it can maintain an adequate supply of air and maintain the level of dust below the recommended exposure limits in the worker's breathing zone.

Special. None.

Other. None.

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves when handling containers; heavy rubber gloves where contact with product may occur. Metatarsal shoes for container handling. Protective clothing where needed. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133.

Eye/Face Protection. Wear safety glasses when handling containers. Select eye protection in accordance with OSHA 29 CFR 1910.133.

Respiratory Protection. A respiratory protection program that meet OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable) requirements must be followed whenever workplace conditions warrant respirator use. Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus.

9. Physical and Chemical Properties
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APPEARANCE:	Black powder	
ODOR:	Odorless	
ODOR THRESHOLD:	Not available.	
PHYSICAL STATE:	Solid at normal temperature and pressure	
pH:	5.0-10.0	
MELTING POINT at 1 atm:	6602°F (3650°C)	
BOILING POINT at 1 atm:	Sublimes	
FLASH POINT (test method):	Not available.	
EVAPORATION RATE (Butyl Acetate = 1):	Not available.	
FLAMMABILITY:	Flammable	
FLAMMABLE LIMITS IN AIR , % by volume:	LOWER: Not available.	UPPER: Not available.
VAPOR PRESSURE at 68°F (20°C):	0 mmHg	
VAPOR DENSITY at 70°F (21.1°C) and 1 atm:	Not available.	
SPECIFIC GRAVITY (H ₂ O =1):	1.5-2.1	
SPECIFIC GRAVITY (Air =1):	0.2-0.75	
SOLUBILITY IN WATER 68°F (20°C):	Insoluble	
PARTITION COEFFICIENT: n-octanol/water:	Not available.	

AUTOIGNITION TEMPERATURE:	>700°F (>370°C)
DECOMPOSITION TEMPERATURE:	Not available.
PERCENT VOLATILES BY VOLUME:	<5% (released at high temperatures)
MOLECULAR WEIGHT:	12.0 g/mol
MOLECULAR FORMULA:	C

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

This material is stable as shipped and stored under normal conditions, i.e., 70°F (21.1°C).

CONDITIONS TO AVOID: Moisture

INCOMPATIBLE MATERIALS: Strong oxidizers, strong acids

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur

11. Toxicological Information

ACUTE DOSE EFFECTS: None known.

STUDY RESULTS: None known.

12. Ecological Information

ECOTOXICITY: No known effects.

OTHER ADVERSE EFFECTS: None known. This material does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return product to supplier.

14. Transport Information

DOT/IMO SHIPPING NAME: Carbon, activated

HAZARD CLASS:	PACKING GROUP/Zone:	IDENTIFICATION NUMBER:	PRODUCT RQ:
4.2	III	UN1362	None

SHIPPING LABEL(s): SPONTANEOUSLY COMBUSTIBLE

PLACARD (when required): SPONTANEOUSLY COMBUSTIBLE

*NA = Not applicable.

MARINE POLLUTANTS: This material is not listed as a marine pollutant by DOT.

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: Yes

PRESSURE: No

DELAYED: No

REACTIVITY: No

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

This material is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

This material is not listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: The components of this material are listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

This material is not listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: This material is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: This material is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *Combustible solid*. Use only with compatible materials and equipment. Store and use with adequate ventilation at all times.

Mixtures. When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, chemicals have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 0
FLAMMABILITY = 1
INSTABILITY = 0
SPECIAL = None

HMIS RATINGS:

HEALTH = 0
FLAMMABILITY = 1
PHYSICAL HAZARD = 0

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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