



Material Safety Data Sheet

U.S. Department of Labor
 Occupational Safety and Health Administration
 This form is consistent with ANSI standard for
 preparation of MSDS's in accordance with
 OSHA's Hazard Communication Standard,
 29 CFR 1910.1200.

| | |
|---------------------------------------|--------------------------|
| Product Type: FLUEPAC A | |
| Product Code: 3825 | Profile No: 1 |
| Effective Date: March 31, 2008 | Supersedes: XXXXX |

SECTION I - PRODUCT AND COMPANY INFORMATION

| | | |
|---------------------------------|--|----------------|
| Company Identification (USA) | Calgon Carbon Corporation P.O. Box 717 Pittsburgh, PA 15230-0717 | |
| Telephone Number(s) | Information | 412-787-6700 |
| | Emergency | 412-787-6700 |
| Company Identification (Europe) | Chemviron Carbon Zoning Industriel de Feluy B-7181 Feluy, Belgium | |
| Telephone Number(s) | Information | 32 64 51 18 11 |
| | Emergency | 32 64 51 18 11 |
| Date Prepared | Signature of Preparer (optional) | |
| November 3, 2008 | | |

SECTION II – COMPOSITION /INFORMATION ON INGREDIENTS

Nonhazardous components are listed at 3% or greater; acute hazards are listed when present at 1% or greater and chronic hazards are listed when present at 0.01% or greater. This is not intended to be a complete compositional disclosure.

| Ingredient / Component | CAS No | % by Wt |
|-------------------------------|-----------|---------|
| Activated Carbon (Coal based) | 7440-44-0 | 100 |
| | | |
| | | |
| | | |

SECTION III – HAZARD(S) IDENTIFICATION

| | | | |
|---|--------------|---|--|
| Emergency Overview: Black particulate solid, pellet or powder. Contact may cause eye irritation. Dust may be slightly irritating to eyes and respiratory tract. Avoid generation of dust during handling. | | | |
| CAUTION: Wet activated carbon removes oxygen from air causing a severe hazard to workers in enclosed or confined space. Before entering such an area, sampling and work procedures for low oxygen levels should be taken to ensure ample oxygen availability, observing all local, state and federal regulations | | | |
| OSHA Regulatory Status | | Not regulated | |
| HMIS Ratings (NFPA) | Health | 0 | 4 = Extreme/Severe 3 = High/Serious 2 = Moderate 1 = Slight 0 = Minimum W = Water Reactive OX = Oxidizer |
| | Flammability | 1 | |
| | Reactivity | 0 | |
| | Special | | |
| Protective Equipment | | Safety glasses with side shields or goggles, gloves, long sleeve shirt or lab coat, long pants recommended. | |
| Health Effects | | See Section IV | |
| Environmental Effects | | See Section XII | |

Section IV – First-Aid Measures

| | |
|--|---|
| Route of exposure | |
| Eyes | Dust may cause mild irritation, possibly reddening. |
| Skin | Dust may cause mild irritation, possibly reddening. |
| Inhalation | Dust may cause mild irritation to the upper respiratory tract. |
| Ingestion | Dust may cause mild irritation to digestive track resulting in nausea or diarrhea. |
| Signs/Symptoms of Exposure | Dust may cause irritation and redness of eyes, irritation of skin and respiratory system. |
| Emergency and First Aid Procedures | For eye contact, immediately flush with copious amounts of water for at least 15 minutes, lifting both the upper and lower lids occasionally; seek medical attention. For skin contact, wash with soap and water; seek medical attention. For inhalation, Remove to fresh air and rest as needed; seek medical attention for any breathing difficulty. For ingestion, drink plenty of water; seek medical attention. |
| Medical Conditions Generally Aggravated by Exposure | People with pre-existing skin conditions or eye problems or impaired respiratory function may be more susceptible to the potential effects of the dust. |

SECTION V – FIRE FIGHTING MEASURES

| | |
|--|---|
| Suitable Extinguishing Media | Use an extinguishing media suitable for the surrounding fire. |
| Unsuitable Extinguishing Media | None known |
| Specific Hazards | 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. Carbon monoxide and carbon dioxide gas may be generated if combusted. Contact with strong oxidizers such as ozone or liquid oxygen may cause rapid combustion. |
| Protective Equipment and Procedures | Wear NIOSH approved self-contained breathing apparatus suitable for the surrounding fire. |

SECTION VI – ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------------|--|
| Personal Precautions | Wear protective equipment, keep unnecessary personnel away, ventilate area of spill. |
| Environmental Precautions | The material is not soluble but can cause a particulate emission if discharged to waterways; therefore, dike all entrances to sewers and drains to avoid introducing the material into the waterways. |
| Containment & Clean-up | Dike all entrances to sewers and drains. Vacuum or shovel spilled material and place in closed container for disposal. Remove product to appropriate storage area until it can be properly disposed of in accordance with local, state and federal regulations. Avoid dust formation. See section XIII |
| Other information | NA |

SECTION VII – HANDLING AND STORAGE

| | |
|-----------------|--|
| Handling | Avoid prolonged contact with eyes and skin. Keep away from ignition sources. Use in well ventilated areas. Protect containers from physical damage. Wash hands after handling. |
| Storage | Store in cool, dry, ventilated area and in closed containers. Keep away from oxidizers, heat or flames. Store away from ignition sources. |

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

| Component | OSHA PEL | ACGIH TLV | Other limits |
|--------------------------------------|---|--------------------------|--------------|
| Activated Carbon | 5 mg/M ³ Resp | 5 mg/M ³ Resp | |
| | | | |
| Exposure Guidelines | Wet activated carbon removes oxygen from air posing a hazard to workers in enclosed or confined space. Before entering such an area, sample the air to assure sufficient oxygen supply. Use work procedures for low oxygen levels, observing all local, state and federal regulations. | | |
| Engineering Controls | No special ventilation requirements. Good general ventilation should be adequate. Mechanical ventilation is recommended for enclosed or confined spaces | | |
| Personal Protective Equipment | Use of NIOSH approved particulate filter is recommended if dust is generated in handling. The usual precautionary measures for handling chemicals should be followed, i.e. gloves, safety glasses w/side shields or goggles, long sleeve shirt or lab coat, dust respirator if dusty. Other protective clothing/equipment as appropriate. | | |
| General Hygiene | The usual precautionary measures for handling chemicals should be followed: i.e. Keep away from food and beverage; remove contaminated clothing immediately; wash hands before breaks or eating; avoid contact with eyes and skin. | | |

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------------|-----------------------------------|-------------------------|----|
| Boiling Point | NA | Melting Point | NA |
| Vapor Pressure (mm Hg.) | 0 | Evaporation Rate | NA |
| Vapor Density (AIR = 1) | solid | Flash Point | NA |
| Specific Gravity | 0.4 to 0.7 | UEL | NA |
| | | LEL | NA |
| Flammability Limits | Ignition Temperature > 220° C | | |
| Odor | None | | |
| Solubility in Water | Product is not soluble. | | |
| Appearance | Black granular or powder material | | |

SECTION X – STABILITY AND REACTIVITY

| | | | |
|---|-----------------------|-----------|---|
| STABILITY | UNSTABLE | | CONDITIONS TO AVOID: None |
| | STABLE | XX | |
| HAZARDOUS REACTION | MAY OCCUR | | CONDITIONS TO AVOID: None |
| | WILL NOT OCCUR | XX | |
| Caution: High concentrations of organics in air will cause temperature rise due to heat of adsorption. At very high concentration levels this may cause a bed fire. High concentrations of Ketones and Aldehydes may cause a bed temperature rise due to adsorption and oxidation. | | | |
| Incompatible Materials | | | Alkali Metals and Strong Oxidizers such as ozone, oxygen, permanganate, chlorine. |
| Hazardous Decomposition Products | | | Carbon monoxide and carbon dioxide gas may be generated during combustion of this material. |

SECTION XI – Toxicological information

| | | |
|---------------------------------------|---|---|
| Acute Effects | | |
| Toxicity Studies | Oral LD ₅₀ | Not Determined on the finished product. |
| | Dermal LD ₅₀ | Not Determined on the finished product. |
| Inhalation | See section IV | |
| Ingestion | See section IV | |
| Eye Irritation | See section IV | |
| Skin Irritation | See section IV | |
| Sensitization | Not Determined on the finished product. | |
| Target Organ (s) or System | | |
| | | Eyes, Skin and Upper Respiratory System |
| Signs and symptoms of Exposure | | Irritation and redness of eyes, irritation of skin and respiratory system may result from exposure to carbon dust. See Sections III and IV |
| Chronic Effects | | |
| Carcinogenicity | Not Determined on the finished product. | |
| Mutagenicity | Not Determined on the finished product. | |
| Reproductive Effects | Not Determined on the finished product. | |
| Developmental Factors | Not Determined on the finished product. | |

SECTION XII – ECOLOGICAL INFORMATION

| | |
|--|---|
| Ecotoxicity | Not Determined on the finished product. |
| Persistence/degradability | Not Determined on the finished product. |
| Bioaccumulation/Accumulation | Not Determined on the finished product. |
| Mobility in Environmental Media | Not Determined on the finished product. |
| Other Adverse Effects | Not Determined on the finished product. |

SECTION XIII – DISPOSAL CONSIDERATIONS

Vacuum or shovel material into a closed container. Storage and disposal should be in accordance with applicable local, state and federal laws and regulations. Local regulations may be more stringent than state or federal requirements.

SECTION XIV – TRANSPORT INFORMATION

This information as presented below only applies to the material as shipped. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

| | | | |
|--|-----------------|---|---------------------------------------|
| Land | DOT Regulations | Proper Shipping Description | FLUEPAC A (Steam Activated Carbon) |
| | Canadian WHMIS | Hazard Class | NA See note below |
| | | UN/NA | UN 1362 |
| Water | IMO / IMDG | Proper Shipping Description: | FLUEPAC A (Steam Activated Carbon) |
| | | Hazard Class | NA See note below |
| | | UN/NA | UN 1362 |
| Air | IACO / IATA | Proper Shipping Description | FLUEPAC A (Steam Activated Carbon) |
| | | Hazard Class | NA See note below |
| | | UN/NA | UN 1362 |
| | | Information reported for product/size: 0.5 Kg | |
| <p>This product has been tested according to the <u>United Nations Transport of Dangerous Goods</u> test protocol for a “self-heating substance”. It has been specifically determined that this product does not meet the definition of a self heating substance or any other hazard class, and therefore is not a hazardous material. Please note that this information is applicable only for the Activated Carbon Product identified in this document.</p> | | | |

SECTION XV – REGULATORY INFORMATION

| | | |
|---|--|--------------------|
| SARA Title III 302 | Product is not subject to SARA Title III, section 302 regulation. | |
| SARA Title III 313 | Product is not subject to SARA Title III, section 313 regulation. | |
| TSCA | Product is listed | |
| California Proposition 65 | Product is not listed | |
| Canadian classification | WHMIS | Product is listed. |
| | DSL # | Product is listed. |
| EEC Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations. | | |
| Risk and Safety Phrases | R36: Irritating to the eyes, R37: Irritating to the respiratory system, R38: Irritating to the skin, | |

SECTION XVI – OTHER INFORMATION

| | |
|--|---|
| Intended Use | The material is generally used for treatment of gases and liquids |
| The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for their particular use. | |
| While the information and recommendations set forth herein are believed to be accurate as of the date hereof, Calgon Carbon Corporation makes no warranty with respect to same and disclaims all liability for reliance there on. | |

References:

NA not applicable

Legend:

| | |
|------------------|--|
| ACGIH | - American Conference of Governmental Industrial Hygienists |
| ANSI | - American National Standards Institute |
| ATSDR | - Agency for Toxic Substances and Disease Registry |
| C | - Ceiling (limit value) |
| CAS # | - Chemical Abstracts Service Registry Number |
| CERCLA | - Comprehensive Environmental Response, Compensation, and Liability Act |
| CEPA | - Canadian Environmental Protection Act |
| CFR | - Code of Federal Regulations |
| DOT | - Department of Transportation |
| DSL | - Domestic Substances List |
| EINECS | - European Inventory of Existing Commercial Chemical Substances |
| ERAP | - Emergency Response Assistance Plan |
| IATA | - International Air Transportation Association |
| IARC | - International Agency for Research on Cancer |
| ICAO | - International Civil Aviation Organization |
| IDLH | - Immediately Dangerous to Life and Health |
| IMO | - International Maritime Organization |
| IMDG | - International Maritime Dangerous Goods |
| LC ₅₀ | - The concentration of material in air expected to kill 50% of a group of test animals |
| LD ₅₀ | - Lethal Dose expected to kill 50% of a group of test animals |
| NFPA | - National Fire Protection Association |
| NIOSH | - National Institute for Occupational Safety and Health |
| NTP | - National Toxicology Program |
| OSHA | - Occupational Safety and Health Association |
| PEL | - Permissible Exposure Limit |
| RCRA | - Resource conservation and Recovery Act |
| RQ | - Reportable Quantity |
| SARA | - Superfund Amendments and Reauthorization Act |
| STEL | - Short Term Exposure Limit |
| TDG | - Transportation of Dangerous Goods Act/Regulation |
| TLV | - Threshold Limit Value |
| TSCA | - Toxic Substances Control Act |
| TWA | - Time Weighted Average |
| WHMIS | - Workplace Hazardous Material Information System |

* * * END OF MATERIAL SAFETY DATA SHEET * * *