SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product identifier
Product name: OLC 12X40
Product form: Substance
CAS No: 7440-44-0
Product code: 12490
Synonyms: Activated Carbon

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Adsorbent

1.3. Details of the supplier of the safety data sheet
Calgon Carbon Corporation
P.O. Box 717
Pittsburgh, PA 15230
412-787-6700

1.4. Emergency telephone number
Emergency number: CHEMTREC (24 HRS): 1-800-424-9300

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture
GHS-US classification
Combustible Dust
Not classified as a simple asphyxiant. Product does not displace oxygen in the ambient atmosphere, but slowly adsorbs oxygen from a confined space when wet. Under conditions of anticipated and recommended use, product does not pose an asphyxiation hazard.

2.2. Label elements
GHS-US labeling
Signal word (GHS-US): Warning
Hazard statements (GHS-US): May form combustible dust concentrations in air

2.3. Other hazards
Other hazards not contributing to the classification: Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/Information on Ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated Carbon</td>
<td>(CAS No) 7440-44-0</td>
<td>&lt; 100</td>
</tr>
</tbody>
</table>

3.2. Mixture
Not applicable

SECTION 4: First Aid Measures

4.1. Description of first aid measures
First-aid measures general: If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation: IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing.

First-aid measures after skin contact: IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes.

First-aid measures after eye contact: IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
First aid measures after ingestion: IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries: Not expected to present a significant hazard under anticipated conditions of normal use. However, dust may cause irritation and redness of the eyes, irritation of the skin and respiratory system. The effects of long-term, low-level exposures to this product have not been determined.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting Measures
5.1. Extinguishing media
Unsuitable extinguishing media: None known.
5.2. Special hazards arising from the substance or mixture
Fire hazard: Dust may be combustible under specific conditions. May be ignited by heat, sparks or flames.
Explosion hazard: Dust may form explosive mixture in air.
Reactivity: No dangerous reactions known under normal conditions of use. Carbon oxides may be emitted upon combustion of material.
5.3. Advice for firefighters
Firefighting instructions: Wear NIOSH-approved self-contained breathing apparatus suitable for the surrounding fire. Use water spray or fog for cooling exposed containers. Evacuate area.

SECTION 6: Accidental Release Measures
6.1. Personal precautions, protective equipment and emergency procedures
General measures: Evacuate area. Keep upwind. Ventilate area. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel
No additional information available
6.1.2. For emergency responders
No additional information available
6.2. Environmental precautions
Prevent entry to sewers and public waters. Avoid release to the environment. Product is not soluble, but can cause particulate emission of discharged into waterways. Dike all entrances to sewers and drains to avoid introducing material to waterways. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust.
Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal. Minimize generation of dust. Dispose of material in compliance with local, state, and federal regulations.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and Storage
7.1. Precautions for safe handling
Precautions for safe handling: Avoid dust formation. Avoid contact with skin, eyes and clothing. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from sources of ignition. No smoking.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed in a cool, dry, and well-ventilated place. Keep away from ignition sources.

SECTION 8: Exposure Controls/Personal Protection
8.1. Control parameters
Activated Carbon (7440-44-0)*
OSHA PEL (TWA) (mg/m³): ≤ 5 (Respirable Fraction)
≤ 15 (Total Dust)
8.2. Exposure controls

Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas. Wet activated carbon can deplete oxygen from air in enclosed spaces. If use in an enclosed space is required, procedures for work in an oxygen deficient environment should be followed.


Hand protection: Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection: Use eye protection suitable to the environment. Avoid direct contact with eyes.

Skin and body protection: Wear long sleeves, and chemically impervious PPE/coverall to minimize bodily exposure.

Respiratory protection: Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Appearance: Granular, powder, or pelletized substance
Color: Black
Odor: Odorless
Odor threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): Not applicable
Melting point: Not applicable
Freezing point: Not applicable
Boiling point: Not applicable
Flash point: No data available
Auto-ignition temperature: > 220 °C
Decomposition temperature: No data available
Flammability (solid, gas): > 220 °C
Vapor pressure: Not applicable
Relative vapor density at 20 °C: Not applicable
Apparent density: 0.4 - 0.7 g/cc
Solubility: Insoluble.
Log Pow: Not applicable
Log Kow: Not applicable
Viscosity, kinematic: Not applicable
Viscosity, dynamic: Not applicable
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and Reactivity

10.1. Reactivity
No dangerous reactions known under normal conditions of use.

10.2. Chemical stability
Stable under use and storage conditions as recommended in section 7.
10.3. Possibility of hazardous reactions
None known.

10.4. Conditions to avoid
Avoid dust formation. Heat. Ignition sources. Exposure to high concentrations of organic compounds may cause bed temperature to rise.

10.5. Incompatible materials
Alkali metals. Strong oxidizing agents.

10.6. Hazardous decomposition products
Carbon monoxide (CO), carbon dioxide (CO₂).

**SECTION 11: Toxicological Information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>Not classified</th>
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</thead>
</table>

**Activated Carbon (7440-44-0)**

| LD50 oral rat | > 2000 mg/kg |

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**Silica: Crystalline, quartz (14808-60-7)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>1 - Carcinogenic to humans</th>
</tr>
</thead>
</table>

The International Agency for Research on Cancer (IARC) has classified “silica dust, crystalline, in the form of quartz or cristobalite” as carcinogenic to humans (group 1). However these warnings refer to crystalline silica dusts and do not apply to solid activated carbon containing crystalline silica as a naturally occurring, bound impurity. As such, we have not classified this product as a carcinogen in accordance with the US OSHA Hazard Communication Standard (29 CFR §1910.1200) but recommend that users avoid inhalation of product in a dust form.

<table>
<thead>
<tr>
<th>Reproductive toxicity</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aspiration hazard</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms/injuries</td>
<td>Not expected to present a significant hazard under anticipated conditions of normal use. However, dust may cause irritation and redness of the eyes, irritation of the skin and respiratory system. The effects of long-term, low-level exposures to this product have not been determined.</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological Information**

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available
OLC 12X40
Product Code: 12490
Safety Data Sheet

SECTION 13: Disposal Considerations

13.1. Waste treatment methods
Waste treatment and disposal methods: Vacuum or shovel material into a closed container. Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment. Subject to Calgon Carbon technical approval, non-powdered activated carbons may be reactivated to allow recycle and reuse.

Additional information: Activated carbon is an adsorbent media; hazard classification is generally determined by the adsorbate. Consult U.S. EPA guidelines listed in 40 CFR 261.3 for more information on hazardous waste disposal.

SECTION 14: Transport Information

14.1. In accordance with DOT
Not classified as hazardous for domestic land transport

UN-No.(DOT): None on finished product
DOT NA no.: None on finished product
Proper Shipping Name (DOT): Not regulated
Department of Transportation (DOT) Hazard Classes: None on finished product
Hazard labels (DOT): None on finished product
Packing group (DOT): None on finished product
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): None on finished product

14.2. Transport by sea
Not classified as hazardous for water transport

IMO / IMDG
UN/NA Identification Number: None on finished product
UN- Proper Shipping Name: Not regulated
Transport Hazard Class: None on finished product

14.3. Air transport
Not classified as hazardous for air transport

ICAO / IATA
UN/NA No: None on finished product
UN- Proper Shipping Name: Not regulated
Transport Hazard Class: None on finished product
Packing Group: None on finished product
Marine Pollutant: None on finished product

14.4. Additional information
Other information: Under the UN classification for activated carbon, all activated carbons have been identified as a class 4.2 product. However, this product type or an equivalent has been tested according to the United Nations Transport of Dangerous Goods test protocol for a “self-heating substance” (United Nations Transportation of Dangerous Goods, Manual of Tests and Criteria, Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self Heating Substances) and it has been specifically determined that this product type or an equivalent does not meet the definition of a self-heating substance (class 4.2) or any other hazard class, and therefore should not be listed as a DOT hazardous material.

SECTION 15: Regulatory Information

15.1. US Federal regulations

OLC 12X40
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt

Cobalt (7440-48-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on United States SARA Section 313
SARA Section 313 - Emission Reporting: 0.1 %
15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65

WARNING: This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, birth defects, or other reproductive harm.

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</thead>
<tbody>
<tr>
<td>Silica: Crystalline, quartz (14808-60-7)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>Cobalt (7440-48-4)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>NA</td>
</tr>
<tr>
<td>Titanium dioxide (13463-67-7)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>NA</td>
</tr>
</tbody>
</table>

Aluminum oxide (1344-28-1)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Massachusetts - Right to Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Calcium sulfate (7778-18-9)

U.S. - Massachusetts - Right to Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Silica: Crystalline, quartz (14808-60-7)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Massachusetts - Right to Know List

SECTION 16: Other Information

Indication of changes: Revision 1.0: New SDS Created.
Revision Date: 04/20/2015
Other information: Author: CJS.
For internal use only: PR #1
Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard: 1 - Must be preheated before ignition can occur.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
HMIS III Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Physical</td>
<td>0</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. The information in this document applies to this specific material as supplied. It may not be valid if product is used in combination with 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 the same, and disclaims all liability for reliance thereon.