



Section 1 – Identification of the substance/mixture and of the company/undertaking			
Product Identifier/Name:	Steam Activated Carbon	CAS No. 7440-44-0	EINECS No. 931-328-0
Trade Name and Synonyms:	OxPure® brand, with particle sizes from microns to millimeters		
Chemical Name:	Activated Carbon		
Relevant Identified Uses of the Substance or Mixture and Uses Advised Against:	Adsorbents in various liquid and gas (including vapor, air, etc.) phases, Carriers/supports for catalyst applications.		
Restrictions On Use:	None known		
Details of the Supplier:	Oxbow Activated Carbon LLC, 2535 Jason Court, Oceanside, CA 92056, USA Phone: 1-760-630-5724	Questions Contact: Emergency Phone:	SDS.Support@Oxbow.com US: 1-800-222-1222
Section 2 – Hazards Identification			
GHS Classification and Labelling of the Substance or Mixture:			
Label Elements			
Signal Word:	Warning		
Hazard Statement:	May form combustible dust concentrations in air.		
Hazard Symbol:	None		
Precautionary Statement:	<p>Prevention: Prevent dust accumulation to minimize explosion hazard. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Wear respiratory protection. Use only outdoors or in a well-ventilated area. Observe good industrial hygiene practices.</p> <p>Response: In case of fire: Use appropriate media to extinguish. Wash hands after handling.</p> <p>Storage: Store away from incompatible materials.</p> <p>Disposal: Dispose of waste and residues in accordance with local authority requirements.</p>		
Exposure Limits:	See Section 8 of the SDS		
Physical hazards:	Not classified.		
Health hazards:	Not classified.		
OSHA defined hazards:	Combustible dust		
Other Hazards: Hazard(s) not otherwise classified (HNOC)	None known.		
Supplemental information	This material does not ignite easily; however, feasible electrical precautions against dust explosion are recommended. Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire. Wet activated carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Spent (or used) activated carbons may exhibit properties pertaining to the adsorbed components.		
Section 3 – Composition / Information on Ingredients			
Substances:	Activated carbon	100%	CAS NO. 7440-44-0
Mixtures:	All concentrations are in percent by weight unless ingredient is a gas. Gas		
Composition comments:	concentrations are in percent by volume.		
Section 4 – First Aid Measures			
Description of First Aid	Inhalation: Move to fresh air. Call a physician if symptoms develop or persist. If		



Measures:	dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device. Get medical attention immediately. Eye Contact: Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists. Skin Contact: Wash off with soap and water. Get medical attention if irritation develops and persists. Ingestion: Rinse mouth. Get medical attention if symptoms occur.
Most Important Symptoms and Effects, acute and delayed:	Dusts may irritate the respiratory tract, skin and eyes. Coughing. Exposed individuals may experience eye tearing, redness, and discomfort.
Indication of Any Immediate Medical Attention and Special Treatment Needed:	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Section 5 – Firefighting Measures	
Extinguishing Media:	Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture. Unsuitable Extinguishing Media: Do not use water jet as an extinguisher, as this will spread the fire.
Special Hazards Arising from the Substance or Mixture:	Material burns slowly without flame. Activated carbon which has been allowed to smolder for a long time in a confined space may accumulate carbon monoxide above its permissible exposure limit. Do not enter permitted confined space or enclosed area without proper PPE. High concentrations of dust may form combustible dust concentrations in air. Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc., may result in fire. During fire, hazardous combustion products are released that may include: Carbon oxides (CO _x).
Special protective equipment and precautions for firefighters Fire fighting equipment/instructions Specific methods General fire hazards	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials. May form combustible dust concentrations in air.
Section 6 – Accidental Release Measures	
Personal Precautions, Protective Equipment, Emergency Procedures:	Keep people away from and upwind of spill/leak. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Environmental Precautions:	Avoid discharge into drains, water courses or onto the ground.
Methods and Material for Containment and Clean-up:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking



	<p>tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). The product is immiscible with water and will sediment in water systems. Stop the flow of material, if this is without risk.</p> <p>Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.</p> <p>Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> <p>Used or spent activated carbon may contain pollutants which require the material to be treated according to specific laws or local permits and may require the use of risk management measures when handling the product.</p>																								
Reference to Other Sections:	Section 8 of the SDS																								
Section 7 – Handling And Storage																									
Precautions For Safe Handling:	<p>Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary fires. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Explosion-proof general and local exhaust ventilation. Avoid prolonged exposure. Do not enter storage areas or confined spaces unless adequately ventilated. Oxygen concentration should not fall below 19.5 %at sea level (pO₂ = 135 mmHg). Oxygen level alarms are advisable in enclosed storage areas/confined spaces containing wet activated carbon. Mechanical ventilation or local exhaust ventilation may be required. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.</p>																								
Conditions For Safe Storage:	<p>Keep dry. Avoid high temperatures. Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Access to storage of wet activated carbon should be restricted. Oxygen level alarms are advisable in enclosed storage rooms containing wet activated carbon.</p>																								
Incompatibilities:	Heat and source of ignition, strong oxidizing acids or oxidants																								
Specific End Use:	Not Available																								
Section 8 – Exposure Controls / Personal Protection																									
Control Parameters:	<p>Occupational exposure limits</p> <p style="text-align: center;">US. OSHA Table Z-3 (29 CFR 1910.1000)</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Type</th> <th>Value</th> <th>Form</th> </tr> </thead> <tbody> <tr> <td>Steam Activated Carbon OxPure brand</td> <td>TWA</td> <td>5 mg/m³ 15 mg/m³</td> <td>Respirable fraction Total dust</td> </tr> <tr> <td>Steam Activated Carbon (CAS 7440-44-0)</td> <td>TWA</td> <td>5 mg/m³ 15 mg/m³</td> <td>Respirable fraction Total dust</td> </tr> </tbody> </table> <p style="text-align: center;">US. NIOSH: Pocket Guide to Chemical Hazards</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Type</th> <th>Value</th> <th>Form</th> </tr> </thead> <tbody> <tr> <td>Steam Activated Carbon OxPure brand</td> <td>TWA</td> <td>2.5 mg/m³</td> <td>Respirable</td> </tr> <tr> <td>Steam Activated Carbon (CAS 7440-44-0)</td> <td>TWA</td> <td>2.5 mg/m³</td> <td>Respirable</td> </tr> </tbody> </table>	Material	Type	Value	Form	Steam Activated Carbon OxPure brand	TWA	5 mg/m ³ 15 mg/m ³	Respirable fraction Total dust	Steam Activated Carbon (CAS 7440-44-0)	TWA	5 mg/m ³ 15 mg/m ³	Respirable fraction Total dust	Material	Type	Value	Form	Steam Activated Carbon OxPure brand	TWA	2.5 mg/m ³	Respirable	Steam Activated Carbon (CAS 7440-44-0)	TWA	2.5 mg/m ³	Respirable
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	Biological limit values: No biological exposure limits noted for the ingredient(s).		
Engineering Controls	<p>Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.</p> <p>Low oxygen work procedures should be in place – Wet activated carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessels oxygen content should be determined and work procedures for potentially low oxygen areas should be followed. Alternatively the room may be fitted with oxygen level sensors having an alarm setting at 18 vol%.</p>		
Personal Protection Information:	<p>Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.</p> <p>Eye/Face Protection: Wear safety glasses with side shields (or goggles).</p> <p>Skin Protection-Hand Protection: Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.</p> <p>Skin Protection-Other: Wear suitable protective clothing.</p> <p>Thermal hazard: Wear appropriate thermal protective clothing, when necessary.</p>		
General Hygiene:	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.		
Section 9 – Physical and Chemical Properties			
Information on Basic Physical and Chemical Properties:			
Appearance:	Solid	Flammability:	Not available
Color	Black		
Odor:	Odorless	Upper Flammability/Explosive Limit:	Not available
Odor Threshold:	Not available	Lower Flammability/Explosive Limit:	Not available
pH:	Not available	Vapor Pressure:	Not available
Melting Point:	Not available	Vapor Density:	Not available
Freezing Point:	Not available	Relative Density:	Not available
Initial Boiling Point:	Not available	Solubility:	Insoluble
Boiling Range:	Not available	Partition Coefficient: n-octanol/water:	Not available
Flash Point:	Not available	Auto Ignition Temperature:	Not available
Evaporation Rate:	Not available	Decomposition Temperature:	Not available
		Viscosity:	Not available
Other Info:		Molecular Formula	C
Bulk Density	0.1 – 1 g/cm ³	Molecular Weight	12.01 g/mol
Section 10 – Stability and Reactivity			
Reactivity:	The product is stable and non-reactive under normal conditions of use, storage and transport.		
Chemical Stability:	Material is stable under normal conditions.		
Hazardous Polymerization:	Not available		
Possibility of Hazardous Reaction	Contact with strong oxidizers like chlorine, liquid oxygen, permanganate, ozone, may result in rapid combustion and possible explosion. Wet activated carbon depletes oxygen from air and, therefore, dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the		



	vessel's oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.
Conditions to Avoid:	Keep away from heat, sparks and open flame. Do not contact with incompatible materials. Minimize dust generation and accumulation.
Incompatible Materials:	Keep away from strong oxidizing acids and other strong oxidants.
Hazardous Decomposition Products	No hazardous decomposition products are known.
Section 11 – Toxicological Information	
Information on Toxicological Effects:	
Routes of Entry:	Inhalation: Prolonged inhalation may be harmful. Prolonged and repeated overexposure to dust can lead to pneumoconiosis. Pre-existing pulmonary disorders, such as emphysema, may possibly be aggravated by prolonged exposure to high concentrations of carbon. Skin Contact: Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Eye Contact: May irritate eyes. Ingestion: May cause discomfort if swallowed. When large amounts are ingested orally, congestion may occur. However, ingestion is not likely to be a primary route of occupational exposure.
Acute Toxicity:	Not expected to be acutely toxic.
Skin corrosivity/Irritation:	May cause skin irritation.
Eye damage/irritation	May cause eye irritation.
Sensitization:	Respiratory sensitization: Not a respiratory sensitizer. Skin sensitization: This product is not expected to cause skin sensitization.
Repeated Dose Toxicity:	Specific target organ toxicity -single exposure: Not classified. Specific target organ toxicity -repeated exposure: Not classified.
Carcinogenicity:	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. IARC Monographs. Overall Evaluation of Carcinogenicity: Not listed. NTP Report on Carcinogens: Not listed. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproduction: Toxicity:	This product is not expected to cause reproductive or developmental effects.
Aspiration hazard: Chronic effects: Further information:	Due to the physical form of the material it is not an aspiration hazard. Prolonged inhalation may be harmful. Excessive concentrations of activated carbon may reduce visibility, cause unpleasant deposits in the eye, ears, and nasal passages, or irritate the skin or mucous membranes by mechanical means. However, normal workplace exposure has not been determined to cause a significant health effect.
Section 12 – Ecological Information	
Ecotoxicity:	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence & Degradability:	The product solely consists of inorganic compounds which are not biodegradable.
Bioaccumulation Potential:	Bioaccumulation is unlikely to be significant because of the low water solubility of this product.
Mobility in Soil:	The product is insoluble in water and will sediment in water systems.
Results of PBT and vpvB Assessment:	Not available
Other Adverse Effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected



	from this component.
Section 13 – Disposal Considerations	
Waste Treatment Methods:	<p>Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.</p> <p>Local disposal regulations: Dispose in accordance with all applicable regulations.</p> <p>Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.</p> <p>Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).</p> <p>Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.</p>
Section 14 – Transport Information	
DOT:	Not regulated as dangerous goods.
IATA:	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
UN Number:	Not available
UN Proper Shipping Name:	Not available
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable
Marine Pollutant:	The product is not classified as marine pollutant.
Special Precautions for User:	Not available
IMDG/IMO:	Not regulated as dangerous goods.
Transportation in Bulk According to Annex II of MARPOL73/78 and the IBC Code:	Not applicable
General information:	Wet activated carbon depletes oxygen from air and therefore dangerously low levels of oxygen may be encountered. Whenever workers enter a vessel containing activated carbon, the vessel(s) oxygen content should be determined and work procedures for potentially low oxygen areas should be followed.
Section 15 – Regulatory Information	
Safety Health and Environmental Regulations/ Legislation Specific for the Substance or Mixture	<p>US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.</p> <p>TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.</p> <p>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not regulated.</p> <p>CERCLA Hazardous Substance List (40 CFR 302.4): Not listed</p> <p>Superfund Amendments and Reauthorization Act of 1986 (SARA)</p> <p>Hazard Categories:</p> <ul style="list-style-type: none"> Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No <p>SARA 302 Extremely hazardous substance: Not listed.</p> <p>SARA 311/312 Hazardous chemical: Yes</p> <p>SARA 313 (TRI reporting): Not regulated.</p>



	<p>Other federal regulations Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated. Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated. Safe Drinking Water Act (SDWA): Not regulated.</p> <p>US state regulations US. Massachusetts RTK - Substance List: Not regulated. US. New Jersey Worker and Community Right-to-Know Act: Activated Carbon (CAS 7440-44-0) US. Pennsylvania Worker and Community Right-to-Know Law: Not listed. US. Rhode Island RTK: Not regulated. California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.</p> <p>International Inventories</p> <table border="1"> <thead> <tr> <th>Country(s) or region</th> <th>Inventory name</th> <th>On inventory (yes/no)*</th> </tr> </thead> <tbody> <tr> <td>Australia</td> <td>Australian Inventory of Chemical Substances (AICS)</td> <td>Yes</td> </tr> <tr> <td>Canada</td> <td>Domestic Substances List (DSL)</td> <td>Yes</td> </tr> <tr> <td>China</td> <td>Inventory of Existing Chemical Substances in China (IECSC)</td> <td>Yes</td> </tr> <tr> <td>Europe</td> <td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td> <td>Yes</td> </tr> <tr> <td>Korea</td> <td>Existing Chemicals List (ECL)</td> <td>Yes</td> </tr> <tr> <td>New Zealand</td> <td>New Zealand Inventory</td> <td>Yes</td> </tr> <tr> <td>Philippines</td> <td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td> <td>Yes</td> </tr> <tr> <td>United States Puerto Rico</td> <td>Toxic Substances Control Act (TSCA) Inventory</td> <td>Yes</td> </tr> </tbody> </table> <p>*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).</p>	Country(s) or region	Inventory name	On inventory (yes/no)*	Australia	Australian Inventory of Chemical Substances (AICS)	Yes	Canada	Domestic Substances List (DSL)	Yes	China	Inventory of Existing Chemical Substances in China (IECSC)	Yes	Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes	Korea	Existing Chemicals List (ECL)	Yes	New Zealand	New Zealand Inventory	Yes	Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes	United States Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes
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United States Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes																										
Section 16 – Other Information																												
Issue date Revision date Version #	5-March-2016 - 01																											
HMIS® Ratings	Health: 1 Flammability: 1 Physical hazard: 0 Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.																											



NFPA Ratings



Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

DISCLAIMER: All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. It relates specifically to the product designated and may not be valid for the product when used with any other materials or products or in a particular process.

The information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee, express or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to review this information, satisfy itself as to its suitability and completeness, and pass on the information to its employees or customers in accordance with applicable hazard communication and GHS requirements. We do not accept responsibility for any loss or damage which may occur from the use of this information.