

# Material Safety Data Sheet

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## 1. Chemical Product and Supplier Identification

Product Name: Calcined Anthracite Coal,  
Other name(s): Anthracite, Calcined Coal  
Recommended Use: carbon Raiser  
Street Address: Flat/Rm 1502 Easey Commercial Bldg 253-261 Hennessy  
Rd ,Wanchai, Hong kong  
Company: JH CARBON LIMITED  
TelephoneNumber: +86-13871034343  
Fax number: +852-30697752

## 2. Hazards identification

**Emergency overview:** Solid, granular. Gray to black. Odorless. Material will burn if ignited.  
Dust or fines dispersed in the air can be explosive.

Dust: Can cause irritation of the eyes, skin and upper respiratory tract. Combustion can generate toxic and irritating gases. Gases and vapors: Can cause irritation of the respiratory tract. Acute overexposures: gases and vapors: Can cause reduced ability of the blood to carry oxygen (carboxyhemoglobin), difficulty breathing, narrowing of the airways, the accumulation of the fluid in the lungs (pulmonary edema), coma and death.

### **Potential health effects**

The following statements summarize the health effects generally expected in cases of overexposures. User specific situations should be assessed by a qualified individual.

Additional health information can be found in Section 11.

**Eyes:** Dust: Can cause mechanical irritation.

**Skin:** Dust: Can cause mechanical irritation.

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**Inhalation:** Dust: Can cause irritation of the upper respiratory tract. Chronic overexposures: Can Cause chronic bronchitis, scarring of the lungs (pulmonary fibrosis) and lung cancer.

Combustion can generate toxic and irritating gases. Gases: Can cause irritation of the respiratory tract. Acute overexposures: Gases and

Vapors: Can cause headache, dizziness, fatigue, reduced ability of the blood to carry oxygen (carboxyhemoglobin), difficulty breathing, narrowing of the airways, the accumulation of fluid in the lungs (pulmonary edema), coma and death. Chronic overexposures: Sulfur dioxide: Can cause bronchitis and erosion of dental enamel.

## **Carcinogenicity and Reproductive Hazard**

Can present a cancer hazard (Silica, crystalline quartz). Does not present any reproductive hazards.

## **Medical conditions aggravated by exposure to product**

Dust from processing: Asthma, chronic lung disease, and skin rashes.

### **3. Composition/Information on Ingredients**

Composition comments

Complete composition is provided below and may include some components classified as non-hazardous.

Components	Cas #	Percent (%)
Anthracite, calcined	68187-59-7	>=99
Silica, crystalline quartz	14808-60-7	0 - 1
Silica, amorphous	112926-00-8	0 - 1

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## Additional Information

Additional compounds which may be formed (during combustion/decomposition) are listed in Section 8.

## 4. First Aid Measures

### First Aid procedures

- Eye contact: Dust from processing: Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
- Skin contact: Dust from processing: Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.
- Inhalation: Remove to fresh air. Check for clear airway, breathing, and presence of pulse. If breathing is difficult, provide oxygen. Loosen any tight clothing on neck or chest. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

Most important symptoms and effects, both acute and delayed.

Dust and fume from processing: Irritant effects. Respiratory tract irritation. Prolonged exposure may cause chronic effects. Coughing. Shortness of breath. Discomfort in the chest.

Notes to physician: If breathing is difficult, give oxygen.

## 5. Fire Fighting Measures

### General fire hazards

While not considered “flammable” or “combustible” as defined by regulatory or governmental agencies, the material will burn if ignited.

### Extinguishing media

#### Suitable extinguishing media

Dry Chemical, foam, carbon dioxide, water fog.

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## Unsuitable extinguishing media

Due to insufficient cooling of the burning material, carbon dioxide may be ineffective at preventing re-ignition. Use of water on burning coal pile may liberate flammable gases.

## **Protection of firefighter**

### Special hazards arising from the substance or mixture

Although a similar material has been tested and found to be non-explosive, the possibility exists that high concentrations of airborne dust generated during processing could present an explosion hazard. Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.

### Protective equipment and precautions for firefighters

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

## **Hazardous combustion products**

Combustion can generate carbon monoxide, carbon dioxide, sulfur dioxide and oxides of nitrogen.

## Explosion data

Sensitivity to mechanical impact: Not applicable.

Sensitivity to static discharge: Not known.

## **6. Accidental Release Measures**

### Personal precautions, protective equipment and emergency procedures.

For non-emergency personnel: Avoid generating dust.  
See Section 8 of the MSDS for Personal Protective equipment.

For emergency responders: No additional information.

Environmental precautions: No special environmental precautions required.

Evacuation procedures: None necessary.

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Spill or leak procedure: No special measures required.

Methods and material for containment and cleaning up.

Avoid dust formation. Pick up mechanically.

## **7. Handling and Storage**

Handling: Avoid generating dust. Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions. Do not use compressed air to remove settled material from floors, beams or equipment. Keep away from sources of ignition – No smoking. Use with adequate explosion-proof ventilation to meet limits listed in Section 8. Wear appropriate personal protective equipment.

Storage: Keep material dry. Containerize in drums, tarped dump truck, or bulk container, so that dusting is minimal during storage and transportation. Store away from heat, sparks, flames, oxidizers and other incompatible substances.

## **8. Exposure Controls/Personal Protection**

Engineering controls

If dust is generated through processing: Use with adequate explosion-proof ventilation designed to handle particulates to meet the limits listed in Section 8, Exposure Guidelines.

Personal Protective Equipment

Eye / Face protection: Wear safety glasses with side shields. Use tight fitting goggles if excessive levels of dust are generated.

Skin and body protection: Wear appropriate gloves to avoid any skin injury.

Thermal hazards: Not applicable.

Respiratory protection: Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional. Suitable respiratory protective device recommended: N95 for dust. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other

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circumstances where air-purifying respirators may not provide adequate protection.

Environmental exposure control

No special environmental precautions required.

Hygiene Measures

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.

**R Follow standard monitoring procedures. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.**

**Occupational exposure limits.**

U.S. - OSHA				
Components	Cas #	Type	Value	Form
Anthracite, Calcined	68187-59-7	T	.4mg/m <sup>3</sup>	Respirable fraction less than 5% SiO <sub>2</sub>
Silica, amorphous	112926-00-8	T		/m <sup>3</sup> /%SiO <sub>2</sub>
Compounds formed during processing				
Ulfur dioxide	7446-09-5	T	5 PPM	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)				
Compounds Formed during processing				
Components	Cas #	Type	Value	Form
Carbon monoxide	630-08-0	PEL	55 mg/m <sup>3</sup>	
Nitrogen dioxide	10102-44-0	Ceiling	50 PPM 9mg/m <sup>3</sup>	

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US. OSHA Table Z-3 (29 CFR 1910.1000)				
Components	Cas #	Type	Value	Form
Silica, crystalline quartz	14808-60-7	T	0.3 mg/m <sup>3</sup>	Total dust.
Compounds Formed during processing				
Carbon monoxide	630-08-0	Ceiling	50 ppm	Light Manufacturing Indoor air
		STEL	200 ppm	Peak
		TWA	25 ppm	Gas
			12.5 ppm	Light Manufacturing Indoor air
Sulfur dioxide	7446-09-5	STEL	1 ppm	
		TWA	0.5 ppm	(8 Hours)

US. ACGIH Threshold Limit Values				
Components	Cas #	Type	Value	Form
Anthracite, Calcined	68187-59-7	T	.4mg/m <sup>3</sup>	Respirable fraction.
Silica, crystalline quartz	14808-60-7	T	.025mg/m <sup>3</sup>	Respirable fraction.
Compounds Formed during processing				
Carbon Monoxide	630-08-0	T		
Nitrogen dioxide	10102-44-0	STEL	5 ppm	
		TWA	3 ppm	
Sulfur dioxide	7446-09-5	STEL	0.25 ppm	

### 9. Physical and Chemical Properties

Form: Solid, granular.  
 Appearance: Grey, Black  
 Odor: odorless  
 Odor threshold: Not applicable  
 pH: Not applicable  
 Vapor pressure: Not applicable  
 Vapor density: Not applicable  
 Boiling point: Not applicable  
 Melting point/Freezing point: Not available.

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Solubility (Water): Insoluble  
Density: Not determined.  
Flash Point: Not applicable

Flammability limits in air, Upper, % by volume Not applicable.  
Flammability limits in air, Lower, % by volume Not applicable  
Auto-ignition temperature: Not determined  
VOC: 0%  
Percent volatile: 0%  
Partition coefficient (n-octanol/water) Not applicable.

## **10. Stability and Reactivity**

Chemical stability: Stable under normal condition of use, storage, and transportation.  
Incompatible materials: Strong oxidizers (chlorine, perchlorates, permanganates, peroxides, nitric acid, chromates, etc.)  
Hazardous decomposition Products: Carbon monoxide, carbon dioxide, sulfur dioxide and Nitrogen oxides (NO<sub>x</sub>)  
Hazardous polymerization: hazardous polymerization does not occur.

## **11. Toxicological Information**

### **Health effects associated with ingredients**

Carbon dust: Can cause irritation of eyes, mucous membranes and upper respiratory tract.  
Acute overexposures: Can cause difficulty breathing, narrowing of the airways, and the accumulation of fluid in the lungs (pulmonary edema).



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Silica, crystalline (quartz, cristobalite, tridymite): Chronic overexposures: Can cause scarring of lungs (silicosis), suppression of the immune system and lung cancer. IARC/NTP: Listed as “known to be a human carcinogen” (if respirable size) by the NTP. Listed as carcinogenic to humans (by inhalation) by IARC (group1). Additional information: Studies with experimental animals (rats) by inhalation have found lung tumors.

Silica, amorphous: Acute overexposures: Can cause dryness of eyes, nose and upper respiratory tract.

### **Health effect associated with compounds formed during processing.**

Can generate the following when heated to decomposition or during combustion:

Carbon monoxide: Acute overexposures: Can cause headache, dizziness, failure of the blood to carry oxygen (carboxyhemoglobin), coma and death. Can cause reduced birth weights during pregnancy.

Sulfur dioxide: Can cause irritation of eyes, skin and respiratory tract. Acute overexposures: can cause difficulty breathing, narrowing of the airways, and the accumulation of fluid in the lungs (pulmonary edema). Chronic overexposures: can cause bronchitis, dryness in the mouth and throat and erosion of dental enamel.

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Oxides of nitrogen (NO and NO<sub>2</sub>): Can cause irritation of eyes, skin and respiratory tract. Acute overexposures: Can cause reduce ability of the blood to carry oxygen (methemoglobin). Can cause cough, shortness of breath, accumulation of fluid in the lungs (pulmonary edema) and death. Effects can be delayed up to 2-3 weeks. Nitrogen dioxide (NO<sub>2</sub>: Chronic overexposure: can cause scarring of the lungs (pulmonary fibrosis.)

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Compounds Formed During Processing	Test Results
Nitrogen dioxide (10102-44-0)	Acute Inhalation LC50 Guinea Pig: 30mg/l 1 hours
	Acute Inhalation LC50 Rat: 88mg/l 4 Hours
Sulfur dioxide (7446-09-5)	Acute Inhalation LC50 Rat: 2500 mg/l/4 hours
Component analysis	No Information available for product
LD50	
R	Inhalation.
Acute effects	Not classified.
Chronic effects	Prolonged exposure may cause chronic effects. May cause lung damage
Skin corrosion/irritation	Non-corrosive.
Serious eye damage/ eye irritation	Can cause mechanical irritation
R	.May cause lung damage.
Sensitization	Not a skin sensitizer
Carcinogenicity	Contain no ingredient listed as a carcinogen
ACGIH Carcinogens	
Anthracite, calcined (CAS 68187-59-7)	A4 not classifiable as a human carcinogen
Nitrogen dioxide (Cas 10102-44-0)	A4 not classifiable as a human carcinogen
Silica, crystalline quartz (CAS 14808-60-7)	A2 Suspected human carcinogen.
Sulfur dioxide (CAS 7446-09-5)	A4 not classifiable as a human carcinogen
IARC Monographs. Overall Evaluation of Carcinogenicity	
Anthracite, calcined (CAS 68187-59-7)	3 Not classifiable as to carcinogenicity to human
Silica, amorphous (CAS 112926-00-8)	3 Not classifiable as to carcinogenicity to human
Silica, crystalline quartz (CAS 14808-60-7)	1 Carcinogenic to humans.
Sulfur dioxide (CAS 7446-09-5)	3 Not classifiable as to carcinogenicity to human

### **12. Ecological Information**

Ecotoxicity                      Avoid contaminating waterways.

### **13. Disposal Considerations**

Disposal methods:

Refer to local government authority for disposal recommendations. Dispose of material through a licensed waste contractor.

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## **14. Transport Information**

Road and Rail Transport

Not classified as Dangerous Goods by China Authority; NON-DANGEROUS GOODS

Marine Transport

Not Classified as Dangerous Goods by China Authority; NON-DANGEROUS GOODS.

Air Transport

Not Classified as Dangerous Goods by China Authority; NON-DANGEROUS GOODS

## **15. Regulatory Information**

Superfund Amendments and reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard – No

Delayed Hazard – Yes

Fire Hazard – No

Pressure Hazard – No

Reactivity Hazard – No

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### Inventory Status

Country(s) or Region	Inventory Name	On Inventory
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemical List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	YES
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	YES

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country.

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