

## SAFETY DATA SHEET (SDS)

### SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product Identifier</b> TerraFill® TF-50LD: Metallurgical Coke/Bentonite Blend (Low Dust)	
<b>Product Use</b> TF-50LD	
<b>Manufacturer's Name</b> ALLTEC LLC	
<b>Street Address</b> 64 Catalyst Drive	
<b>City</b> Canton	<b>State</b> North Carolina
<b>Zip Code</b> 28716	<b>Emergency Telephone</b> 828-646-9290
<b>Date SDS Prepared</b> 04/25/2017	<b>SDS Prepared By</b> ALLTEC LLC

### SECTION 2 — HAZARDS IDENTIFICATION

2.1: Classification of substance

Metallurgical Coke/Bentonite Blend is not a hazardous substance

2.2: Label Elements

Hazard Statement: H373 may cause damage to lung through prolonged or repeated inhalation.

Precautionary Statement: P260: do not breathe dust

P285: In case of inadequate ventilation wear respiratory protection.



2.3: Other hazards

None known

### SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Composition: Carbon variety Metallurgical Coke (100%). Metallurgical Coke/Bentonite Blend is not a pure substance, but is a mixture of carbon, inert mineral matter, and silica.

CAS # 65996-77-2

EC # 266-010-4

Molecular Weight: 12.0

## Product Identifier

### TerraFill® TF-50LD Metallurgical Coke/Bentonite Blend (Low Dust)

#### SECTION 4 — FIRST AID MEASURES

<b>4.1.1 Inhalation</b> Remove patient to particulate-free environment. Wear approved dust mask to avoid breathing dust. Seek medical attention if irritation persists.
<b>4.1.2 Skin contact</b> Wash with mild soap and warm water: Metallurgical Coke/Bentonite Blend is non-staining to skin and is not a chemical irritant.
<b>4.1.3 Eye contact</b> Rinse with tepid water until eyes are clear of particulates. Seek medical attention if irritation persists
<b>4.1.4 Ingestion</b> Get immediate medical attention. Do not induce vomiting unless directed by medical personnel. Metallurgical coke not known to be toxic by ingestion. However, ingestion may cause digestive system blockage.
4.2 Most important symptoms and effects, both acute and delayed: No Data Available
4.3 Indication of any immediate medical attention and special treatment needed: If patient exhibits shortness of breath, choking, powder inundated eyes or mouth; immediate medical attention may be required.

#### SECTION 5 — FIRE FIGHTING MEASURES

Metallurgical coke is not flammable under normal conditions
5.1 Extinguishing Media Dry chemical extinguisher, water, sand, limestone powder,
5.2 Special Hazards This substance will burn but is not easily ignited. At temperatures above 1500 C, coke reacts with substances containing oxygen, including water and carbon dioxide. In case of intensely hot fire events, use sand to cover and isolate the burning coke.  Products of Combustion: Carbon dioxide, CO <sub>2</sub> , carbon monoxide, CO, sulfur dioxide, SO <sub>2</sub> .
5.3 Advice for Fire Fighters: Use self-contained air pack, gloves, safety goggles
5.4 Additional Information: USA NFP Rating 010

#### SECTION 6 — ACCIDENTAL RELEASE MEASURES

	Wear approved dust mask, safety goggles, and conventional work gloves.
Methods for Cleaning Up:	Conventional Sweep or vacuum. Avoid creating dusting conditions
6.1 Personal precautions , protective equipment and emergency procedures	
6.1.1 For non-emergency personnel: Wear approved dust mask, safety goggles, and conventional work gloves. Use conventional cleanup techniques and avoid creating dust. Vacuum is preferred over sweeping. Wear a dust mask/respirator to reduce the change of inhaled dust. Metallurgical Coke/Bentonite Blend may be electrically conductive and any cleanup methods should avoid contacting coke with electrical circuitry.	
6.1.2 For emergency responders: Wear approved dust mask, safety goggles, and conventional work gloves. Same methodology as for non-emergency personnel(sec 6.1.1)	
6.2 Environmental Precautions: Metallurgical Coke/Bentonite Blend is inert and insoluble and will not pose any soluble ion hazards to the environment. However, good housekeeping practices should be followed and spilled material should be cleaned up, and disposed of in an appropriate manner.	
6.3 Methods and material for containment and clean up: No special containment needed other than conventional vacuuming and waste containment. Avoid creating dust. Metallurgical Coke/Bentonite Blend may be electrically conductive and any cleanup methods should avoid contacting coke with electrical circuitry.	
6.4 Reference to other sections: Not needed	
6.5 Additional information: Not needed	

## Product Identifier

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## SECTION 7 — HANDLING AND STORAGE

### 7.1 Precautions for safe handling

7.1.1 Handling Use conventional methods, but avoid dusting conditions. Keep powder from contacting eyes. Metallurgical coke may be a conductor of electricity. Avoid contact between Metallurgical Coke/Bentonite Blend and electrical circuitry.
7.2 Conditions for safe storage, including any incompatibilities.
Storage and Incompatibilities Store all carbonaceous materials in a dry location. Metallurgical Coke/Bentonite Blend is incompatible with all oxidizing agents
Dust Explosibility Hazards: Very finely divided coke powder poses a slight risk of dust explosion hazard: Dust class ST1, MIE greater than 10 J (very low hazard of spark ignition)

## SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

### 8.1 Control parameters

8.1.1 Occupational exposure limits				
Component	CAS No.	%	ACGIH TWA	Control Reference
Metallurgical coke	65996-77-2	100	3.0 mg/m <sup>3</sup> Respirable particles 10.0 mg/m <sup>3</sup> Inhalable dust	2014 ACGIH TLV Handbook: Low toxicity/insoluble or poorly soluble- Not otherwise specified
Crystalline silica	14808-60-7	1-2	0.025 mg/m <sup>3</sup> Respirable dust	2014 ACGIH TLV Handbook: Low toxicity/insoluble or poorly soluble- Not otherwise specified
Engineering Measures	Use adequate dust collection to maintain dust levels below the control or recommended values.			
Respiratory Protection	Approved dust mask, type N95 recommended.			
Eye Protection	Conventional safety glasses or goggles.			
Skin Protection	Conventional work gloves and clothing.			
Additional	Metallurgical coke is not a pure substance, but is a mixture of carbon, inert mineral matter, and silica.			

### 8.2 Exposure controls

8.2.1 Appropriate engineering controls: Use adequate dust collection to maintain dust levels below the control or recommended values.
8.2.2 Personal protective equipment
8.2.2.1 Eye/Face Protection: Wear laboratory goggles, or full side shielded safety glasses.
8.2.2.2 Skin Protection: Conventional work gloves and clothing.
8.2.2.3 Respiratory Protection: Approved dust mask, type N95 recommended.
8.2.3 Environmental exposure controls: Metallurgical coke is inert and insoluble. To the best of our knowledge, metallurgical coke will not present any environmental hazards. No special environmental exposure controls, other than standard practices for dust and spill control, are required.

## Product Identifier

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## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Color:	Gray to Black	Material State	Solid, granular or powder
Odor	None		
Boiling Point:	NA	Melting Point	Sublimates at 3652C
Specific Gravity	1.8-2.0	Vapor Density	Not applicable
Vapor Pressure (mm Hg)	NA	% Volatile (By Wt.)	0-1%
Solubility in Water	Insoluble	Evaporation Rate:	Not applicable
pH	NA	Auto Ignition	Above 500 °C
Decomposition Temp	Oxidizes above 450C	Dust Explosion class	ST1=KST>0-200 bar m/s, MIE above 10 J.
Flash Point	NA Solid, non-melting substance.		

## SECTION 10 — STABILITY AND REACTIVITY

10.1 Reactivity	Metallurgical coke is non-reactive under ambient conditions
10.2 .Stability	Stable. Will not polymerize or self-react spontaneously.
10.3 Possibility of hazardous reactions	None known
10.4 Conditions to Avoid	Avoid contact with oxidizing agents. Metallurgical coke will begin to oxidize at temperatures above 450 C.
10.5 Incompatible materials	Oxidizing agents
10.6 Hazardous products of decomposition	Carbon Dioxide (CO <sub>2</sub> ), Carbon Monoxide (CO), Sulfur dioxide (SO <sub>2</sub> )
Flammable Limits (% by Vol.)	LEL and UEL values not available: Minimum Ignition Energy (MIE) greater than 10 joules. When exposed to extremely high energy ignition sources very finely divided coke powder can form explosive mixtures with air. Avoid contact between coke dust clouds and high energy ignition sources. Classified as combustible but not flammable.

## SECTION 11 — TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects.

Toxicological information about metallurgical coke is not available. Metallurgical coke is inert, insoluble and is not expected to present ingestion or other acute toxicity hazard

STOT-repeated exposure: This product contains quartz (respirable) as an impurity, and as a result is classified as STOT RE2 according to EC 1272/2008.

Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica.

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (*IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.*)

## Product Identifier

### TerraFill® TF-50LD Metallurgical Coke/Bentonite Blend (Low Dust)

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003).

**Aspiration hazard:** Solid substance. Based on available data the classification criteria are not met.

**Symptoms related to the physical, chemical and toxicological characteristics:**

**In case of ingestion:** Metallurgical Coke/Bentonite Blend is inert and insoluble, no ingestion toxicity is expected. However, irritation of the gastrointestinal tract may occur.

**In case of skin contact:** Mechanical irritation is possible.

**In case of inhalation:** Inhalation may result mechanical irritation of the respiratory tract. No symptoms are expected if relevant occupational exposure levels are adhered to. In situations of repeated excessive lung overload due to a high airborne concentration of particles of respirable size for extended periods of time pneumoconiosis may develop. See section 4 for first aid measures.

**In case of eye contact:** Mechanical irritation possible. No human data on effects after eye contact are available. See section 4 for first aid measure.

## SECTION 12 — ECOLOGICAL INFORMATION

12.1 Toxicity:	Metallurgical Coke/Bentonite Blend is inert and insoluble. To the best of our knowledge, metallurgical coke does not present any significant environmental hazards unless present in very high concentrations. Carbon is the principal constituent of coke, and is not expected to pose a toxic hazard to aquatic organisms.
12.1.1 Aquatic Toxicity:	Data not available. Metallurgical Coke/Bentonite Blend is not water soluble and does not present a soluble-ion hazard. Fine metallurgical coke particles suspended in natural water bodies may be harmful to organisms sensitive to suspended solids.
12.1.2 Sediment toxicity:	None known.
12.1.3 Terrestrial toxicity:	None known.
12.2 Persistence and degradability:	Metallurgical Coke/Bentonite Blend is a reduced form of carbon and will not degrade further under normal conditions. This form of carbon is stable, unreactive in water under ambient conditions, and is insoluble.
12.3 Bioaccumulation potential:	There is no evidence indicating that coke is bio accumulative.
12.4 Soil Mobility	Metallurgical Coke/Bentonite Blend is not expected to have mobility in soil as it is an insoluble, inorganic substance.
12.5 PBT and vPvB assessment:	Metallurgical Coke/Bentonite Blend is not a persistent bio accumulative and toxic
12.6 Other adverse effects:	None known. Metallurgical coke has no ozone depleting potential.

## SECTION 13 — DISPOSAL CONSIDERATIONS

Dispose of in a manner which conforms to local, state and Federal regulations.

Metallurgical Coke/Bentonite Blend is a reduced form of carbon. Metallurgical coke is non-hazardous but disposal of waste should be handled in a responsible manner.

Metallurgical coke is a form of elemental carbon so it is not biodegradable.

Provision of a European Waste Catalog, waste code number, should be handled in agreement with the regional waste disposal company.

Packaging should be completely emptied of contents and disposed of in a manner specified by the recycler/regional disposal contractor. Dust formation from packaging residues should be avoided. Store empty packaging in a suitable receptacle.

## Product Identifier

### SECTION 14 — TRANSPORT INFORMATION

14.1 UN Number	Not applicable
14.2 UN Proper shipping name	Not applicable
14.3 Transport hazard class	Not applicable
14.4 Packing Group	Not applicable
14.5 Environmental hazards	None known
Marine Transport	Not classified as a hazardous material
Land Transport	Not classified as a hazardous material
Air Transport	Not classified as a hazardous material
Transport Label Required	No label required

### SECTION 15 — REGULATORY INFORMATION

#### 15.1 Regulatory Status and Inventories

Not Classified	
Inventory Information:	
EEC EINECS	#266-010-4
US TSCA	Yes
Canada DSL	Yes
Canada NDSL	No
Australian AICS	Yes
Korean ECL	Yes
IECSC	Yes
SARA 302/304/313	Not listed
REACH: Metallurgical Coke/Bentonite Blend is exempt from REACH registration per Annex V, Paragraph X.	
RoHS Metallurgical Coke/Bentonite Blend is compliant with the EU RoHS directive	
WEEE: Metallurgical Coke/Bentonite Blend is compliant with the EU waste electrical and electronic equipment directive	
15.2 Chemical Safety Assessment: For this substance a chemical safety assessment is not required	

### SECTION 16 — OTHER INFORMATION

#### Abbreviations Used:

ACGIH TWA	American Council of Government and Industrial Hygienists Time Weighted Average value.	CAS
	Chemical Abstracts Service	
NA	Not applicable	
N.O.S.	Not otherwise specified	
BW	Body weight	