



## MATERIAL SAFETY DATA SHEET

### SECTION 1 - MATERIAL IDENTIFICATION AND USE

MATERIAL

NAME - IDENTIFIER:

**CARBON BONDED STEEL FOUNDRY FILTER CORES**

<b>MANUFACTURER NAME:</b>		<b>SUPPLIER NAME:</b>	
Apogee Ceramics Inc.		Apogee Ceramics Inc.	
<b>STREET ADDRESS:</b> 71 Folsetter Dr.		<b>STREET ADDRESS:</b> 71 Folsetter Dr.	
<b>CITY:</b> Paris, Ontario	<b>COUNTRY:</b> Canada	<b>CITY:</b> Paris, Ontario	<b>COUNTRY:</b> Canada
<b>POSTAL CODE:</b> N3L 0E2	<b>PHONE:</b> 519-442-3636	<b>POSTAL CODE:</b> N3L 0E2	<b>PHONE:</b> 519-442-3636

<b>CHEMICAL NAME:</b> Alumina, Mullite, Carbon	<b>CHEMICAL FAMILY:</b> Clay	<b>CHEMICAL FORMULA:</b> $\text{Al}_2\text{O}_3, 3\text{Al}_2\text{O}_3 - 2\text{SiO}_2, \text{C}_2$
<b>MOLECULAR WEIGHT:</b>	<b>MATERIAL USE:</b> MANUFACTURING END USE	

### SECTION 2 - COMPOSITION INGREDIENTS

COMPOSITION INGREDIENTS	%	UN. NA OR CASE NUMBERS	OSH PEL ( $\text{mg}/\text{m}^3$ ) RESPIRABLE
<b>Alumina</b> ( $\text{Al}_2\text{O}_3$ )	50-60	1344-28-1	5
<b>Mullite</b> ( $3\text{Al}_2\text{O}_3 - 2\text{SiO}_2$ )	20-25	1302-93-8	10
<b>Carbon (C)</b>	10-20	7440-44-0	5

### SECTION 3 - PHYSICAL DATA

<b>PHYSICAL STATE:</b> GAS ( ) LIQUID ( ) SOLID ( <b>X</b> )		<b>ODOUR AND APPEARANCE:</b> BLACK		<b>ODOUR THRESHOLD (PPM):</b> N/A
<b>VAPOUR PRESSURE</b> (mm Hg): N/A	<b>FREEZING POINT (°C):</b> N/A	<b>VAPOUR DENSITY (AIR-1):</b> N/A	<b>EVAPORATION RATE:</b> N/A	<b>BOILING POINT (°C):</b> N/A
<b>% VOLATILE (BY VOLUME):</b> N/A	<b>SOLUBILITY IN WATER (20 °C):</b> N/A	<b>BULK DENSITY:</b> 0.6g/cc. TYPICAL	<b>MELTING POINT:</b> >1600 C	<b>COEFFICIENT WATER OIL DIST:</b> N/A



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### SECTION 4 - FIRE AND EXPLOSIVE DATA

<b>FLAMMABILITY</b>			
YES ( ) NO ( X ): IF YES, UNDER WHICH CONDITIONS?			
MEANS OF EXTINCTION:			
SPECIAL PROCEDURE:			
FLASH POINT (°C) AND METHOD: N/A	UPPER EXPLOSION (% BY VOLUME): N/A	LOWER EXPLOSION LIMIT (% BY VOLUME): N/A	
AUTO IGNITION TEMPERATURE (°C): N/A	TDG FLAMMABILITY CLASSIFICATION: N/A	HAZARDOUS COMBUSTION PRODUCTS: N/A	
<b>EXPLOSION DATA:</b>	SENSITIVITY TO STATIC DISCHARGE:	EXPLOSIVE POWER:	RATE OF BURNING:
SENSITIVITY TO IMPACT: N/A	N/A	N/A	N/A

### SECTION 5 - REACTIVITY DATA

<b>CHEMICAL STABILITY</b>	
YES ( X ), NO ( ) IF NO UNDER WHICH CONDITIONS?	
COMPATIBILITY WITH OTHER SUBSTANCES	
YES ( X ), NO ( ) IF NO, WHICH ONES?	
REACTIVITY UNDER WHICH CONDITIONS:	NON-REACTIVE
HAZARDOUS DECOMPOSITION PRODUCTS:	N/A

### SECTION 6 - TOXICOLOGICAL PROPERTIES

<b>ROUTE OF ENTRY:</b>			
SKIN CONTACT ( )	SKIN ABSORPTION ( )	EYE CONTACT ( )	INHALATION ACUTE ( X )
INGESTION ( )			INHALATION CHRONIC ( X )
<b>EFFECTS OF ACUTE EXPOSURE TO MATERIAL:</b>			
NO EFFECT OTHER THAN AS NUISANCE DUST (WHEN MACHINING IS REQUIRED).			
<b>EFFECTS OF CHRONIC EXPOSURE:</b>			
LONG TERM EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA CAN CAUSE SILICOSIS.			
LD/50 OF MATERIAL: N/A	LC/50 OF MATERIAL: N/A	EXPOSURE LIMIT OF MATERIAL: 5 mg/m	IRRITANCY OF MATERIAL: N/A
SENSITIZING CAPABILITY OF MATERIAL: N/A	CARCINOGENICITY OF MATERIAL: N/A	REPRODUCTIVE EFFECTS OF MATERIAL: N/A	SYNERGISTIC MATERIALS: N/A



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### SECTION 7 - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: RESPIRATOR RECOMMENDED WHEN DUST IS CREATED DUE TO MACHINING OF FIRED CERAMICS. PROTECTIVE EYE WEAR, GLOVES RECOMMENDED IN CASE OF BROKEN FRAGMENTS.		
GLOVES (SPECIFY): SEE ABOVE	RESPIRATORY (SPECIFY): WHERE TLV IS EXCEEDED	EYE (SPECIFY): SEE ABOVE
FOOTWEAR (SPECIFY): N/A	CLOTHING (SPECIFY): N/A	OTHER (SPECIFY): N/A
ENGINEERING CONTROLS (SPECIFY E.G. VENTILATION ENCLOSED PROCESS): N/A		
LEAK AND SPILL PROCEDURE: N/A		
WASTE DISPOSAL: N/A		
HANDLING PROCEDURES AND EQUIPMENT: N/A		
STORAGE REQUIREMENTS: N/A		
SPECIAL SHIPPING INFORMATION: N/A		

### SECTION 8 - FIRST AID MEASURES

IN CASE OF EYE INJURY, SEVERE CUTS FROM SHARP BROKEN CERAMIC FRAGMENTS, CONSULT PHYSICIAN IMMEDIATELY.

SOURCES USED:
ADDITIONAL INFORMATION:

### SECTION 9 - PREPARATION DATE OF THE MSDS

PREPARED BY (GROUP, DEPARTMENT, ETS) Operations Manager Apogee Ceramics Inc.	PHONE NUMBER:  519-442-3636	DATE PREPARED:  June 29, 2017
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