



## 1. Product and Company Identification

<b>Material name</b>	<b>COMBAT 450-A</b>	
<b>Version #</b>	02	
<b>Revision date</b>	01-01-2014	
<b>CAS #</b>	Mixture	
<b>Manufacturer</b>	<b>Refractory Anchors, Inc.</b> 9836 S. 219th E. Ave. Broken Arrow, OK 74014 USA 800-331-3270 www.rai-1.com sales@rai-1.com CHEMTREC: 1-800-424-9300 8:00 am - 5:00 pm	<b>Matrix Solutions, Inc.</b> 9836 S. 219th E. Ave. Broken Arrow, OK 74014 USA 800-331-3270 www.endcorrosion.com sales@endcorrosion.com CHEMTREC: 1-800-424-9300 8:00 am - 5:00 pm

## 2. Hazards Identification

<b>Emergency overview</b>	Health injuries are not known or expected under normal use.
<b>OSHA regulatory status</b>	This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
<b>Potential health effects</b>	
<b>Eyes</b>	Health injuries are not known or expected under normal use.
<b>Skin</b>	Health injuries are not known or expected under normal use.
<b>Inhalation</b>	Health injuries are not known or expected under normal use.
<b>Ingestion</b>	Health injuries are not known or expected under normal use.
<b>Potential environmental effects</b>	Ecological injuries are not known or expected under normal use.

## 3. Composition / Information on Ingredients

<b>Hazardous components</b>	<b>CAS #</b>	<b>Percent</b>
CARBON BLACK	1333-86-4	< 1
SILICON DIOXIDE (AMORPHOUS)	7631-86-9	1 - 5
ALUMINIUM OXIDE	1344-28-1	10 - 20
1,3-DIGLYCIDYLOXYBENZENE	101-90-6	10 - 20
<b>Non-hazardous components</b>	<b>CAS #</b>	<b>Percent</b>
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	28064-14-4	30 - 50
SILICATE MINERALS	Mixture	30 - 50

## 4. First Aid Measures

<b>First aid procedures</b>	
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
<b>Ingestion</b>	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
<b>General advice</b>	If you feel unwell, seek medical advice (show the label where possible).



## 5. Fire Fighting Measures

- Flammable properties** The product is not flammable. No unusual fire or explosion hazards noted.
- Extinguishing media**
- Suitable extinguishing media** Water. Water fog. Dry chemical powder. Carbon dioxide (CO2). Alcohol foam.
- Specific methods** In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

## 6. Accidental Release Measures

- Personal precautions** Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained.
- Environmental precautions** Prevent further leakage or spillage if safe to do so.
- Methods for containment** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
- Methods for cleaning up**
- Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
- Small Spills: Clean surface thoroughly to remove residual contamination. Soak up with inert absorbent material. Following product recovery, flush area with water.
- Never return spills in original containers for re-use.

## 7. Handling and Storage

- Handling** Handle and open container with care.
- Storage** Use care in handling/storage.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### ACGIH

Components	Type	Value	Form
ALUMINIUM OXIDE (1344-28-1)	TWA	1.0000 mg/m3	Respirable fraction.
CARBON BLACK (1333-86-4)	TWA	3.5000 mg/m3	

#### U.S. - OSHA

Components	Type	Value	Form
ALUMINIUM OXIDE (1344-28-1)	PEL	5.0000 mg/m3	Respirable fraction.
		15.0000 mg/m3	Total dust.
CARBON BLACK (1333-86-4)	PEL	3.5000 mg/m3	
SILICON DIOXIDE (AMORPHOUS) (7631-86-9)	TWA	20.0000 mppcf	
		0.8000 mg/m3	

### Personal protective equipment

- Eye / face protection** Not normally needed.
- Skin protection** No special protective equipment required.
- Respiratory protection** No personal respiratory protective equipment normally required.
- General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical & Chemical Properties

- Appearance** Paste.
- Color** Not available.
- Odor** Slight.
- Odor threshold** N/A
- Physical state** Liquid.
- Form** Not available.
- pH** N/A



<b>Melting point</b>	N/A
<b>Freezing point</b>	N/A
<b>Boiling point</b>	> 392 °F (> 200 °C)
<b>Flash point</b>	> 392 °F (> 200 °C)
<b>Evaporation rate</b>	N/A
<b>Flammability (Train fire)</b>	N/A
<b>Flammability limits in air, upper, % by volume</b>	N/A
<b>Flammability limits in air, lower, % by volume</b>	N/A
<b>Vapor pressure</b>	< 1 mm Hg @ 20°C
<b>Vapor density</b>	> 1
<b>Specific gravity</b>	1.3 typical
<b>Relative density</b>	N/A
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	N/A
<b>Auto-ignition temperature</b>	N/A
<b>Decomposition temperature</b>	N/A
<b>VOC</b>	Negligible
<b>Viscosity</b>	N/A

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Conditions to avoid</b>	Heat, sparks, flames. Contact with incompatible materials.
<b>Incompatible materials</b>	Peroxides. Strong acids, alkalies and oxidizing agents. Fluorine. Chlorine.
<b>Hazardous decomposition products</b>	If product is burned hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced.

## 11. Toxicological Information

### Toxicological data

#### Product

SC5400 Series Part A (Mixture)

#### Test Results

Acute Oral LD50 Mouse: 7352 mg/kg estimated  
Acute Oral LD50 Rabbit: 9424 mg/kg estimated  
Acute Oral LD50 Rat: 19.53 g/kg estimated  
Acute Other LD50 Mouse: 1.8468 g/kg estimated  
Acute Other LD50 Rabbit: 9.424 g/kg estimated

#### Components

1,3-DIGLYCIDYLOXYBENZENE (101-90-6)

#### Test Results

Acute Oral LD50 Mouse: 980 mg/kg  
Acute Oral LD50 Rabbit: 1240 mg/kg  
Acute Oral LD50 Rat: 2.57 g/kg  
Acute Other LD50 Mouse: 0.243 g/kg  
Acute Other LD50 Rabbit: 1.24 g/kg  
Acute Other LD50 Rat: 0.178 g/kg

CARBON BLACK (1333-86-4)

SILICON DIOXIDE (AMORPHOUS) (7631-86-9)

Acute Oral LD50 Rat: > 8000 mg/kg  
Acute Oral LD50 Mouse: > 15000 mg/kg  
Acute Oral LD50 Rat: > 22500 mg/kg

## 12. Ecological Information

**Persistence and degradability** Not available.



### 13. Disposal Considerations

**Disposal instructions**

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

**Waste from residues / unused products**

Not applicable.

### 14. Transport Information

**DOT**

Not regulated as dangerous goods.

### 15. Regulatory Information

**US federal regulations**

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

1,3-DIGLYCIDYLOXYBENZENE (CAS 101-90-6)	0.1 %
ALUMINIUM OXIDE (CAS 1344-28-1)	1.0 %

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

1,3-DIGLYCIDYLOXYBENZENE (CAS 101-90-6)	Listed.
ALUMINIUM OXIDE (CAS 1344-28-1)	Listed.

**CERCLA (Superfund) reportable quantity**

None

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<b>Hazard categories</b>	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - No
	Pressure Hazard - No
	Reactivity Hazard - Yes

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** No

**Inventory status**

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

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

**State regulations**

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

1,3-DIGLYCIDYLOXYBENZENE (CAS 101-90-6)	Listed.
CARBON BLACK (CAS 1333-86-4)	Listed.

**US - New Jersey Community RTK (EHS Survey): Reportable threshold**

1,3-DIGLYCIDYLOXYBENZENE (CAS 101-90-6)	500 LBS
ALUMINIUM OXIDE (CAS 1344-28-1)	500 LBS



**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

ALUMINIUM OXIDE (CAS 1344-28-1)	Listed.
CARBON BLACK (CAS 1333-86-4)	Listed.
SILICON DIOXIDE (AMORPHOUS) (CAS 7631-86-9)	Listed.

**16. Other Information**

**HMIS® ratings**

Health: 1\*  
Flammability: 1  
Physical hazard: 2

**NFPA ratings**

Health: 1  
Flammability: 1  
Instability: 0  
Special hazards: W

**Issue date**

01-20-2011