



## 1. Product and Company Identification

<b>Material name</b>	<b>COMBAT 450-B</b>	
<b>Version #</b>	03	
<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>	CAUTION  Combustible liquid and vapor.  Irritating to skin. Irritating to eyes.
<b>OSHA regulatory status</b>	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
<b>Potential health effects</b>	
<b>Routes of exposure</b>	Skin contact. Eye contact.
<b>Eyes</b>	Causes eye irritation.
<b>Skin</b>	Irritating to skin.
<b>Inhalation</b>	Health injuries are not known or expected under normal use.
<b>Ingestion</b>	Do not ingest.
<b>Potential environmental effects</b>	May cause long-term adverse effects in the environment.

## 3. Composition / Information on Ingredients

<b>Hazardous components</b>	<b>CAS #</b>	<b>Percent</b>
BENZYL ALCOHOL	100-51-6	0 - 17
<b>Non-hazardous components</b>		
3-AMINOPROPYLTRIETHOXYSILANE	919-30-2	0 - 10
1,2-DIAMINOCYCLOHEXANE	694-83-7	0 - 5
[(DIMETHYLAMINO)METHYL]PHENOL	25338-55-0	0 - 17
FORMALDEHYDE, POLYMER WITH BENZENAMINE, HYDROGENATED	135108-88-2	0 - 17
4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)	1761-71-3	25 - 35
Other components below reportable levels		25 - 55

## 4. First Aid Measures

<b>First aid procedures</b>	
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Take off immediately all contaminated clothing. Wash off immediately with plenty of water. Get medical attention if irritation develops and persists.



- Inhalation** 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.
- Ingestion** Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If ingestion of a large amount does occur, call a poison control center immediately.
- General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

- Flammable properties** Combustible by OSHA criteria. NFPA Rating Fire = 2. Materials that must be moderately heated or exposed to relative high ambient temperatures before ignition can occur. Heat may cause the containers to explode.
- Extinguishing media**
- Suitable extinguishing media** Water. Dry powder. Carbon dioxide (CO<sub>2</sub>). Alcohol foam.
- Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.
- Protection of firefighters**
- Specific hazards arising from the chemical** Fire may produce irritating, corrosive and/or toxic gases.
- Specific methods** In the event of fire and/or explosion do not breathe fumes. 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. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not contaminate water.
- Methods for containment** ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
- Methods for cleaning up** Should not be released into the environment.
- 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: Soak up with inert absorbent material. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water.
- Never return spills in original containers for re-use.

## 7. Handling and Storage

- Handling** DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Avoid contact with skin. Avoid contact with eyes. Wear personal protective equipment. Do not use in areas without adequate ventilation. Wash thoroughly after handling. Avoid release to the environment.
- Storage** The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep container tightly closed. Use care in handling/storage.

## 8. Exposure Controls / Personal Protection

- Engineering controls** Ensure adequate ventilation, especially in confined areas.
- Personal protective equipment**
- Eye / face protection** Avoid contact with eyes. Chemical goggles are recommended.
- Skin protection** Avoid contact with the skin. Wear suitable protective clothing.
- Respiratory protection** No personal respiratory protective equipment normally required.
- General hygiene considerations** When using do not smoke. Avoid contact with eyes. Avoid contact with skin.



## 9. Physical & Chemical Properties

<b>Appearance</b>	Liquid.
<b>Color</b>	Golden to Light Amber
<b>Odor</b>	Ammoniacal. Amine-like.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>pH</b>	Alkaline
<b>Melting point</b>	Not available.
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Specific gravity</b>	0.95
<b>Relative density</b>	Not available.
<b>Solubility (water)</b>	Partial
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>VOC</b>	Not available.

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable under normal temperature conditions.
<b>Conditions to avoid</b>	Heat, flames and sparks. Contact with incompatible materials.
<b>Incompatible materials</b>	Peroxides. Chlorine. This product may react with strong acids. This product may react with strong alkalis. This product may react with oxidizing agents.
<b>Hazardous decomposition products</b>	Toxic gas. 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 B (Mixture)

### Test Results

Acute Dermal LD50 Guinea pig: 38.3 ml/kg estimated  
Acute Dermal LD50 Rabbit: 15320 mg/kg estimated  
Acute Inhalation LC100 Rat: 1532 mg/l estimated  
Acute Inhalation LC50 Rat: 7660 mg/l estimated  
Acute Oral LD50 Mouse: 12103 mg/kg estimated  
Acute Oral LD50 Rabbit: 14861 mg/kg estimated  
Acute Oral LD50 Rat: 9422 mg/kg estimated  
Acute Other LD50 Guinea pig: 3064 mg/kg estimated  
Acute Other LD50 Mouse: 2482 mg/kg estimated  
Acute Other LD50 Mouse: 3.8301 ml/kg estimated



**Components**

BENZYL ALCOHOL (100-51-6)

**Test Results**

Acute Dermal LD50 Guinea pig: <= 5 ml/kg  
Acute Dermal LD50 Rabbit: 2000 mg/kg  
Acute Inhalation LC100 Rat: 200 - 300 mg/l 8.00 Hours  
Acute Inhalation LC50 Rat: 1000 mg/l 8.00 Hours  
Acute Oral LD50 Mouse: 1580 mg/kg  
Acute Oral LD50 Rabbit: 1940 mg/kg  
Acute Oral LD50 Rat: 1230 - 3100 mg/kg  
Acute Other LD50 Guinea pig: >= 400 mg/kg  
Acute Other LD50 Mouse: 324 mg/kg  
Acute Other LD50 Mouse: <= 0.499999 ml/kg  
Acute Other LD50 Rat: 53 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Local effects** Irritating to eyes. Irritating to skin.

**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**12. Ecological Information**

**Ecotoxicological data**

**Product**

SC5400 Series Part B (Mixture)

**Test Results**

LC50 Fish: 1238 mg/l 96.00 Hours estimated

**Components**

BENZYL ALCOHOL (100-51-6)

**Test Results**

LC50 Bluegill (Lepomis macrochirus): 10 mg/l 96.00 Hours

\* Estimates for product may be based on additional component data not shown.

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment.

**Environmental effects** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**Persistence and degradability** Not available.

**13. Disposal Considerations**

**Disposal instructions**

Do not allow this material to drain into sewers/water supplies. 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.

**14. Transport Information**

**DOT**

**Basic shipping requirements:**

**UN number** 2735  
**Proper shipping name** Amine, Liquid, Corrosive, N.O.S. (Cycloaliphatic Amines)  
**Hazard class** 8  
**Packing group** III  
**Additional information:**  
**ERG number** 153



DOT

## 15. Regulatory Information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

### CERCLA (Superfund) reportable quantity

None

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

#### Hazard categories

Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### 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

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

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

BENZYL ALCOHOL (CAS 100-51-6)

Listed.

## 16. Other Information

### Further information

HMIS® is a registered trade and service mark of the NPCA.

### HMIS® ratings

Health: 2  
Flammability: 0  
Physical hazard: 0

COMBAT 450-B  
SDS No. RAI-MS-C-450-B



Revision No. 1  
OCTOBER 2015  
SAFETY DATA SHEET

**NFPA ratings**

Health: 2  
Flammability: 0  
Instability: 0

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.

**Issue date**

09-27-2011

**This data sheet contains changes from the previous version in section(s):**

Physical & Chemical Properties: Color  
Regulatory Information: United States