



## 1. Product and Company Identification

<b>Material name</b>	<b>COMBAT 350-A</b>	
<b>Version #</b>	04	
<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	<b>Matrix Solutions, Inc.</b> 9836 S. 219th E. Ave. Broken Arrow, OK 74014 USA
	800-331-3270 www.rai-1.com sales@rai-1.com	800-331-3270 www.endcorrosion.com sales@endcorrosion.com
	CHEMTREC: 1-800-424-9300 8:00 am - 5:00 pm	CHEMTREC: 1-800-424-9300 8:00 am - 5:00 pm

## 2. Hazards Identification

<b>Emergency overview</b>	Harmful in contact with eyes. Irritating to skin. Prolonged exposure may cause chronic effects.
<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>	Inhalation. Ingestion. Skin contact. Eye contact.
<b>Eyes</b>	Contact may irritate or burn eyes. Eye contact may result in corneal injury. Do not get this material in contact with eyes.
<b>Skin</b>	Irritating to skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Avoid contact with the skin.
<b>Inhalation</b>	May cause irritation of respiratory tract. May cause cancer by inhalation. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.
<b>Ingestion</b>	Components of the product may be absorbed into the body by ingestion. Do not ingest.
<b>Target organs</b>	Cardiac. Eyes. RESPIRATORY SYSTEM. Skin.
<b>Chronic effects</b>	Conjunctiva. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
<b>Signs and symptoms</b>	Corneal damage. Conjunctivitis. Upper respiratory tract irritation. Irritation of nose and throat. Irritation of eyes and mucous membranes. Defatting of the skin. Skin irritation. Rash.
<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>
ALUMINIUM OXIDE	1344-28-1	0 - 20
1,3-DIGLYCIDYLOXYBENZENE	101-90-6	2 - 7
<b>Non-hazardous components</b>	<b>CAS #</b>	<b>Percent</b>
MINERAL FILLER	Mixture	20 - 40
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	28064-14-4	20 - 40
DIMETHYL SILICONE POLYMER WITH SILICA, MINIMUM NUMBER AVERAGE MOLECULAR WEIGHT (IN AMU), 1,100,000	67762-90-7	2 - 7



## 4. First Aid Measures

### First aid procedures

#### Eye contact

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 immediately.

#### Skin contact

Remove and isolate contaminated clothing and shoes. Wash off with warm water and soap. Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin.

#### Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention if symptoms occur.

#### Ingestion

Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If ingestion of a large amount does occur, call a poison control center immediately.

### Notes to physician

In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

### General advice

IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire Fighting Measures

### Flammable properties

Not flammable by OSHA criteria. Not combustible by OSHA criteria.

### Extinguishing media

#### Suitable extinguishing media

Water. Alcohol foam. Carbon dioxide (CO<sub>2</sub>).

### Protection of firefighters

#### Protective equipment and precautions for firefighters

Wear suitable protective equipment.

### Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

### 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. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. 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: Wipe up with absorbent material (e.g. cloth, fleece). 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 get this material in contact with eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release to the environment.

### Storage

Keep away from heat, sparks and open flame. Store in a well-ventilated place. Keep container tightly closed. Keep away from food, drink and animal feedings. Keep out of the reach of children. Use care in handling/storage.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ALUMINIUM OXIDE (1344-28-1)	TWA	1 mg/m <sup>3</sup>	Respirable fraction.

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
ALUMINIUM OXIDE (1344-28-1)	PEL	5 mg/m <sup>3</sup>	Respirable fraction.
		15 mg/m <sup>3</sup>	Total dust.

### Engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Personal protective equipment

#### Eye / face protection

Do not get in eyes. Chemical goggles are recommended.

#### Skin protection

Avoid contact with the skin. Wear appropriate chemical resistant clothing. Chemical resistant gloves.

#### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

#### General hygiene considerations

Do not get in eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical & Chemical Properties

Appearance	Not available.
Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	7 estimated
Vapor pressure	82 Pa at 20°C
Vapor density	Not available.
Boiling point	> 392 °F (> 200 °C)
Melting point/Freezing point	89.6 °F (32 °C) estimated
Solubility (water)	Not available.
Specific gravity	0.630000617 estimated
Relative density	Not available.
Flash point	> 302 °F (> 150 °C)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	572 °F (300 °C)



**Partition coefficient (n-octanol/water)** > 3

**Other data**

**Density** 1170 kg/m<sup>3</sup> at 25°C  
**Flammability class** Combustible IIIB estimated

**10. Chemical Stability & Reactivity Information**

**Chemical stability** Stable.  
**Conditions to avoid** Heat, flames and sparks. Contact with incompatible materials.  
**Incompatible materials** Strong acids, alkalies and oxidizing agents. Peroxides.  
**Hazardous decomposition products** Irritants. Toxic gas. Sulfur oxides. 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**

**Test Results**

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SC3300 Series Part A (Mixture)	Acute Oral LD50 Mouse: 32993.3008 mg/kg estimated Acute Oral LD50 Rabbit: 41746.625 mg/kg estimated Acute Oral LD50 Rat: 86.5232 g/kg estimated Acute Other LD50 Mouse: 8.181 g/kg estimated Acute Other LD50 Rabbit: 41.7466 g/kg estimated Acute Other LD50 Rat: 5.9927 g/kg estimated
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**Components**

**Test Results**

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1,3-DIGLYCIDYLOXYBENZENE (101-90-6)	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
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**Local effects** Components of the product may be absorbed into the body through the skin. Irritating to skin. Contact may irritate or burn eyes.  
**Chronic effects** Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.  
**Carcinogenicity** Hazardous by OSHA criteria. Risk of cancer cannot be excluded with prolonged exposure  
**Epidemiology** Hazardous by OSHA criteria.

**12. Ecological Information**

**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.  
**Partition coefficient** > 3

**13. Disposal Considerations**

**Disposal instructions** Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

**14. Transport Information**

**DOT**  
Not regulated as dangerous goods.

**15. Regulatory Information**

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.



**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2))**

Not regulated

**DEA Essential Chemical Code Number**

Not regulated

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Not regulated

**DEA Exempt Chemical Mixtures Code Number**

Not regulated

**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)**

**Hazard categories**

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

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** No

**Inventory status**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
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)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
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	Yes

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

**State regulations** WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

1,3-DIGLYCIDYLOXYBENZENE (CAS 101-90-6)	Listed: July 1, 1989 Carcinogenic.
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**US - New Jersey RTK - Substances: Listed substance**

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

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

ALUMINIUM OXIDE (CAS 1344-28-1)	Listed.
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**16. Other Information**

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



**HMIS® ratings**

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

**NFPA ratings**

Health: 1  
Flammability: 1  
Instability: 0

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Issue date**

Not available.

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

Exposure Controls / Personal Protection: Respiratory protection  
Regulatory Information: United States  
Other Information: Disclaimer