SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form: Mixture
Product name: Oxiline R TI
CAS No: 3522 = Mix3342 + TI
Other means of identification: Resin Bonded Magnesia-Carbon Brick

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Refractory Brick

1.3. Details of the supplier of the safety data sheet
Resco Products, Inc.
One Robinson Plaza, Suite 300
6600 Steubenville Pike
Pittsburgh, PA 15205 - United States
412-494-4491
www.rescoproducts.com

1.4. Emergency telephone number
Emergency number: EMERGENCY ONLY (CHEMTREC) USA & Canada 1-800-424-9300
Outside USA & Canada +1 703-741-5970

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Carc. 2 H351
Full text of H-phrases: see section 16

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US): GHS08

Signal word (GHS-US): Warning
Hazard statements (GHS-US): H351 - Suspected of causing cancer (Inhalation, Dust when sawing or tear out)
Precautionary statements (GHS-US): P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear eye protection, protective gloves, Safety shoes
P308+P313 - If exposed or concerned: Get medical advice/attention

2.3. Other hazards
Other hazards not contributing to the classification: This product contains minor amounts of materials derived from petroleum and/or coal (such as petroleum pitch and/or coal tar pitch). These materials, in turn, contain compounds, which are carcinogenic. Petroleum pitch contains poly-nuclear aromatic compounds, some of which have been identified as carcinogenic. Based on this, NIOSH has identified petroleum pitch as a carcinogenic material. IARC has reported that there is sufficient evidence for the carcinogenicity of “untreated and mildly refined mineral oils” in humans, but no adequate data is available to evaluate the carcinogenicity of “highly refined mineral oils”. Coal tars are by products of the destructive distillation of coal to produce coke and/or gas, and are believed to contain from 400-10,000 separate compounds. One important class of compounds present in coal tars is the so-called polycyclic aromatic hydrocarbons (PAHs). While not all PAHs have been determined to be human carcinogens, many have. The NTP Seventh Annual Report on Carcinogens (1994) listed 15 PAH compounds which “may reasonably be anticipated to be carcinogens”.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide</td>
<td>(CAS No) 1309-48-4</td>
<td>75 - 95</td>
<td>Not classified</td>
</tr>
<tr>
<td>Phenolic Resin</td>
<td>(CAS No) None</td>
<td>1 - 5</td>
<td>Not classified</td>
</tr>
<tr>
<td>Petroleum Pitch</td>
<td>(CAS No) 8052-42-4</td>
<td>1 - 5</td>
<td>Not classified</td>
</tr>
<tr>
<td>carbon black</td>
<td>(CAS No) 1333-86-4</td>
<td>1 - 5</td>
<td>Carc. 2, H351</td>
</tr>
<tr>
<td>graphite</td>
<td>(CAS No) 7782-42-5</td>
<td>0.1 - 1</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16
SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after inhalation: Dust when sawing or tear out. Remove the victim into fresh air.

First-aid measures after skin contact: Gently wash with plenty of soap and water.

First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion: Rinse mouth with water. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Non-flammable. Do not breathe fumes from fires or vapours from decomposition. Product will not burn, but does contain small quantities of chemicals which can generate toxic and/or irritating vapors when initially heated. Under fire conditions hazardous combustion products such as carbon monoxide may be generated.

5.3. Advice for firefighters

Firefighting instructions: Exercise caution when fighting any chemical fire.

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

Other information: Product will not burn, but does contain small quantities of chemicals which can generate toxic and/or irritating vapors when initially heated. Under fire conditions hazardous combustion products such as carbon monoxide may be generated. The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLV's for specific air contaminates. The specific chemical compounds which may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


Emergency procedures: Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Collect spillage. On land, sweep or shovel into suitable containers.

6.2. Environmental precautions
No additional information available

6.3. Methods and material for containment and cleaning up

For containment: Collect spillage.

Methods for cleaning up: Recover mechanically the product.

6.4. Reference to other sections
No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid contact with skin and eyes.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store this product in a dry location where it can be protected from the elements.

Incompatible products: Strong acids.

Incompatible materials: Oxidizing agents and strong acids.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Oxiline R TI (Mixture)</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

05/29/2015 EN (English)
Magnesium Oxide (1309-48-4)

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>10 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graphite (7782-42-5)

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phenolic Resin (None)

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Petroleum Pitch (8052-42-4)

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>0.5 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

carbon black (1333-86-4)

<table>
<thead>
<tr>
<th>Source</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>3 mg/m³</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Hand protection: protective gloves.
Eye protection: Safety glasses.
Respiratory protection: Use care during processing (cutting, sawing, etc.) to minimize generation of dust. Wear appropriate mask.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Appearance: Solid in various shapes.
Colour: Black
Odour: Resin Odor
Odour threshold: No data available
pH: No data available
Melting point: > 2800 °F
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Relative evaporation rate (butylacetate=1): No data available
Flammability (solid, gas): No data available
Explosive limits: No data available
Explosive properties: No data available
Oxidising properties: No data available
Vapour pressure: No data available
Relative density: ≈ 2.9
Relative vapour density at 20 °C: No data available
Solubility: Water: Insoluble
Log Pow: No data available
Log Kow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Stable under normal conditions.
### 10.3. Possibility of hazardous reactions
No additional information available

### 10.4. Conditions to avoid
No additional information available

### 10.5. Incompatible materials
Strong acids.

### 10.6. Hazardous decomposition products
The phenolic resin binder may undergo incomplete combustion when temperature is applied to this product. The intent of this note is as follows: (1) to apprise the customer/user of the potential for incomplete combustion, and (2) to advise that the chemical compounds produced by incomplete combustion by poor air handling practices may exceed TLVs for specific air contaminates. The specific chemical compounds which may be produced include but are not limited to: carbon monoxide, formaldehyde, phenol, alcohols, glycols, and other solvents.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Route of Exposure</th>
<th>LD50 Oral Rat (mg/kg)</th>
<th>LD50 Dermal Rabbit (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium Oxide (1309-48-4)</td>
<td>Rat; Literature study</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 2000 mg/kg bodyweight</td>
</tr>
<tr>
<td>graphite (7782-42-5)</td>
<td>Rabbit; Literature study</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Petroleum Pitch (8052-42-4)</td>
<td>Rat</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>carbon black (1333-86-4)</td>
<td>Rabbit</td>
<td>&gt; 3000 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

- Not classified

**Serious eye damage/irritation**

- Not classified

**Respiratory or skin sensitisation**

- Not classified

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Suspected of causing cancer (Inhalation, Dust when sawing or tear out).

**Petroleum Pitch (8052-42-4)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon black (1333-86-4)</td>
<td>2B - Possibly carcinogenic to humans</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**

- Not classified

**Specific target organ toxicity (single exposure)**

- Not classified

**Specific target organ toxicity (repeated exposure)**

- Not classified

**Aspiration hazard**

- Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Petroleum Pitch (8052-42-4)**

- LC50 fish 1: > 1000 mg/l (96 h; Pisces)
- LC50 other aquatic organisms 1: > 1000 mg/l (96 h)
- Threshold limit other aquatic organisms 1: > 1000 mg/l (96 h)

**carbon black (1333-86-4)**

- LC50 fish 1: > 1000 mg/l (96 h; Brachydanio rerio)
- EC50 Daphnia 1: > 5600 mg/l (24 h; Daphnia magna)

#### 12.2. Persistence and degradability

**Magnesium Oxide (1309-48-4)**

- Persistence and degradability: Biodegradability: not applicable. No (test) data on mobility of the substance available. ThOD: Not applicable (inorganic)

**graphite (7782-42-5)**

- Persistence and degradability: Biodegradability: not applicable.

**Biochemical oxygen demand (BOD)**

- Not applicable

**Chemical oxygen demand (COD)**

- Not applicable

**ThOD**

- Not applicable

**BOD (% of ThOD)**

- Not applicable
Petroleum Pitch (8052-42-4)
Persistence and degradability
Not readily biodegradable in water.

carbon black (1333-86-4)
Persistence and degradability
Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)
Not applicable
Chemical oxygen demand (COD)
Not applicable
ThOD
Not applicable
BOD (% of ThOD)
Not applicable

12.3. Bioaccumulative potential
Magnesium Oxide (1309-48-4)
Bioaccumulative potential
Bioaccumulation: not applicable.

graphite (7782-42-5)
Bioaccumulative potential
No bioaccumulation data available.

Petroleum Pitch (8052-42-4)
Log Pow
> 6 (Calculated)

12.4. Mobility in soil
carbon black (1333-86-4)
Ecology - soil
Not toxic to plants. Not toxic to animals.

12.5. Other adverse effects
Effect on the global warming
No known ecological damage caused by this product.

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information
Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

Additional information
Other information: No supplementary information available.
ADR
No additional information available
Transport by sea
No additional information available
Air transport
No additional information available

SECTION 15: Regulatory information
15.1. US Federal regulations
Petroleum Pitch (8052-42-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

carbon black (1333-86-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
CANADA
Oxiline R TI (Mixture)
WHMIS Classification D2B

EU-Regulations
No additional information available
Classification according to Regulation (EC) No. 1272/2008 [CLP]
No additional information available
Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified
National regulations
carbon black (1333-86-4)
Listed on IARC (International Agency for Research on Cancer)
### 15.3. US State regulations

<table>
<thead>
<tr>
<th>Oxiline R TI (Mixture)</th>
<th>U.S. - California - Proposition 65 - Other information</th>
<th>This product contains carbon black, a chemical known to the State of California to cause cancer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>carbon black (1333-86-4)</td>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td></td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Petroleum Pitch (8052-42-4)**

| U.S. - New Jersey - Right to Know Hazardous Substance List |

**carbon black (1333-86-4)**

| U.S. - New Jersey - Right to Know Hazardous Substance List |

### SECTION 16: Other information

Full text of H-phrases:

<table>
<thead>
<tr>
<th>Carc. 2</th>
<th>Carcinogenicity, Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>H351</td>
<td>Suspected of causing cancer</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**

This information and recommendations set forth herein are taken from sources believed to be accurate as of the date herein, however, Resco Products, Inc. makes no warranty with respect to the accuracy of the information or the suitability of the recommendations, and assumes no liability to any user thereof.