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

1.1. Product identifier
Trade name: RI-85 Cement Grinding Aid
Product form: Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Liquid Cement Grinding Aid

1.3. Details of the supplier of the safety data sheet
ROAN Industries, Inc.
100 Chet Burleson Road
Bakersville, NC 28705
T (828) 688-5888 or (610) 759-4234 or (800) 804-4806

1.4. Emergency telephone number
Emergency number: CHEMTREC: (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin Irrit. 2 H315
Eye Dam. 1 H318
STOT RE 2 H373

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

Signal word (GHS-US): Danger
Hazard statements (GHS-US):
H315 - Causes skin irritation
H318 - Causes serious eye damage
H373 - May cause damage to organs (blood, kidneys, liver) through prolonged or repeated exposure
Precautionary statements (GHS-US):
P260 - Do not breathe vapors, mist
P264 - Wash clothing, face, hands, forearms and face thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a doctor, a poison center
P314 - Get medical advice/attention if you feel unwell
P332+P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS US)
No data available

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>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>(CAS No) 102-71-6</td>
<td>45 - 55</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>(CAS No) 64-19-7</td>
<td>15 - 25</td>
</tr>
<tr>
<td>Proprietary amine</td>
<td></td>
<td>&lt; 2.5</td>
</tr>
</tbody>
</table>
RI-85 Cement Grinding Aid
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Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethanolamine</td>
<td>(CAS No) 111-42-2</td>
<td>&lt; 1.0</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

4.1. Description of first aid measures

First-aid measures general

If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

First-aid measures after skin contact

IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Get medical attention immediately. Continue rinsing.

First-aid measures after ingestion

IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries

May cause damage to organs through prolonged or repeated exposure. Causes skin irritation. Causes serious eye damage.

Symptoms/injuries after inhalation

May cause respiratory irritation.

Symptoms/injuries after skin contact

Causes skin irritation.

Symptoms/injuries after eye contact

Causes serious eye damage.

Symptoms/injuries after ingestion

May cause gastrointestinal irritation.

Chronic symptoms

May cause damage to organs through prolonged or repeated exposure.

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


Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard

Combustable if heated.

Explosion hazard

Product is not explosive.

Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions

Use cold water spray to cool fire-exposed containers to minimize risk of rupture.

Protection during firefighting

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment

Wear Protective equipment as described in Section 8.

Emergency procedures

Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment

For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions

Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up

Wear suitable protective clothing. Soak up residue with an absorbent such as clay, sand or other suitable material. Product may create slip hazard.
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. 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 in a well-ventilated place. Keep container tightly closed.

Storage temperature: Room Temperature

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>Remark (OSHA)</th>
<th>Remark (ACGIH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine (102-71-6)</td>
<td>5</td>
<td>not established</td>
<td></td>
<td>OELs not established</td>
</tr>
<tr>
<td>Proprietary amine</td>
<td></td>
<td></td>
<td></td>
<td>OELs not established</td>
</tr>
<tr>
<td>Diethanolamine (111-42-2)</td>
<td>1 inhalable fraction and vapor</td>
<td>15 vacated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic acid (64-19-7)</td>
<td></td>
<td>10</td>
<td>15</td>
<td>3 vacated</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment: Gloves. Protective goggles. Protective clothing.

Hand protection: Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Change contaminated gloves immediately. Suitable gloves for this specific application can be recommended by the glove supplier. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl.

Eye protection: Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection: Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection: Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Amber</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No Information Found</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
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Freezing point : No data available
Boiling point : 37 - 168 °C (100-335°F)
Flash point : ≈ 160 °C (320°F) COC
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : No Information Found
Relative vapor density at 20 °C : No data available
Relative density : 1.11 - 1.16 H₂O = 1
Solubility : Complete solubility in water.
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Incompatible materials.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Nitrogen oxides. Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>Effect</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine (102-71-6)</td>
<td>LD50 oral rat</td>
<td>4190 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>&gt; 20 ml/kg</td>
</tr>
<tr>
<td>Diethanolamine (111-42-2)</td>
<td>LD50 oral rat</td>
<td>620 µl/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 dermal rabbit</td>
<td>7640 µl/kg</td>
</tr>
<tr>
<td></td>
<td>ATE CLP (oral)</td>
<td>500.000 mg/kg bodyweight</td>
</tr>
<tr>
<td>Acetic acid (64-19-7)</td>
<td>LC50 inhalation rat (mg/l)</td>
<td>11.4 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation.
ph: 6 - 8

Serious eye damage/irritation : Causes serious eye damage.
ph: 6 - 8

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified.
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**Diethanolamine (111-42-2)**

<table>
<thead>
<tr>
<th>IARC group</th>
<th>2B - Possibly carcinogenic to humans</th>
</tr>
</thead>
</table>

**Reproductive toxicity**
- Not classified

**Specific target organ toxicity (single exposure)**
- Not classified

**Specific target organ toxicity (repeated exposure)**
- May cause damage to organs (blood, kidneys, liver) through prolonged or repeated exposure.

**Aspiration hazard**
- Not classified

**Symptoms/injuries after inhalation**
- May cause respiratory irritation.

**Symptoms/injuries after skin contact**
- Causes skin irritation.

**Symptoms/injuries after eye contact**
- Causes serious eye damage.

**Symptoms/injuries after ingestion**
- May cause gastrointestinal irritation.

**Chronic symptoms**
- May cause damage to organs through prolonged or repeated exposure.

**SECTION 12: Ecological information**

12.1. **Toxicity**
No additional information available

12.2. **Persistence and degradability**

**Diethanolamine (111-42-2)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Not established.</th>
</tr>
</thead>
</table>

12.3. **Bioaccumulative potential**

**Diethanolamine (111-42-2)**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Not established.</th>
</tr>
</thead>
</table>

12.4. **Mobility in soil**
No additional information available

12.5. **Other adverse effects**
No additional information available

**SECTION 13: Disposal considerations**

13.1. **Waste treatment methods**
- Waste treatment methods: Do not discharge to public wastewater systems without permit of pollution control authorities.
- Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

**SECTION 14: Transport information**

In accordance with DOT
Not hazardous for transport

**Additional information**
- Other information: No supplementary information available.

**Transport by sea**
No additional information available

**Air transport**
No additional information available

**SECTION 15: Regulatory information**

15.1. **US Federal regulations**

**RI-85 Cement Grinding Aid**
- All components of this product are listed on the TSCA Inventory or are exempt

**SARA Section 311/312 Hazard Classes**
- Immediate (acute) health hazard
- Delayed (chronic) health hazard

**Diethanolamine (111-42-2)**

<table>
<thead>
<tr>
<th>Section</th>
<th>TPQ</th>
<th>SARA Section 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>302 (EHS)</td>
<td>100 lbs</td>
<td>Listed on US SARA Section 313</td>
</tr>
</tbody>
</table>

**Acetic acid (64-19-7)**

---

05/27/2015 RI-85 Cement Grinding Aid 5/6
15.2. International regulations
No additional information available.

15.3. US State regulations
California Proposition 65
WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

### Diethanolamine (111-42-2)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No significance risk level</td>
</tr>
</tbody>
</table>

### Triethanolamine (102-71-6)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

### Diethanolamine (111-42-2)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

### Acetic acid (64-19-7)

- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Massachusetts - Right To Know List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

### SECTION 16: Other information

- Indication of changes: Revision 1.0: New SDS Created.
- Revision date: 05/27/2015
- Other information: Author: OAB.

- NFPA health hazard: 1
- NFPA fire hazard: 1
- NFPA reactivity: 0

- HMIS III Rating
  - Health: 1
  - Flammability: 1
  - Physical: 0
  - Personal Protection: The customer is responsible for determining the PPE code for this material.

DISCLAIMER: INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY IS IMPLIED OR MADE WITH RESPECT TO THE INFORMATION CONTAINED HEREIN.