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

1.1. Product identifier

Product form : Mixture
Product name : 860, DURAGLOSS HD ALUMINUM CLEANER & BRIGHTENER

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Brothers Research Corporation
2245 Airpark Drive
Burlington, NC 27216
T 336-229-6480

1.4. Emergency telephone number

Emergency number : 800-424-9300
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Skin Corr. 1B : H314
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-US) : P260 - Do not breathe vapors
P264 - Wash hands, forearms and face thoroughly after handling
P280 - Wear eye protection, protective clothing, protective gloves
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
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
P321 - Specific treatment (see hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation on this label)
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
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)

Not applicable
860, DURAGLOSS HD ALUMINUM CLEANER & BRIGHTENER
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc&gt;=25%, aqueous solutions</td>
<td>(CAS No) 7664-38-2</td>
<td>15 - 20</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>ammonium hydrogen difluoride, 0.1%&lt;=conc&lt;1%, aqueous solutions</td>
<td>(CAS No) 1341-49-7</td>
<td>2 - 3</td>
<td>Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314</td>
</tr>
<tr>
<td>butyl glycolether</td>
<td>(CAS No) 111-76-2</td>
<td>1 - 2</td>
<td>Flam. Liq. 4, H227</td>
</tr>
</tbody>
</table>
<pre><code>                                                             |                          |      | Acute Tox. 4 (Oral), H302                        |
                                                             |                          |      | Acute Tox. 4 (Dermal), H312                      |
                                                             |                          |      | Acute Tox. 4 (Inhalation:dust,mist), H332        |
                                                             |                          |      | Skin Irrit. 2, H315                              |
                                                             |                          |      | Eye Irrit. 2A, H319                              |
</code></pre>

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 (show the label where possible).

First-aid measures after inhalation : Remove the victim into fresh air. If not breathing give artificial respiration. Get medical advice/attention. Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove clothing while washing. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Move victim away from exposure and into fresh air. Get medical advice/attention. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Do not induce vomiting. Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture


5.3. Advice for firefighters

Firefighting instructions : Water can be used to keep exposed containers cool, to protect: Wear normal protective equipment (full bunker gear) and positive-pressure self contained breathing apparatus. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spill on vermiculite floor absorbent or other absorbent material.

6.1.1. For non-emergency personnel

Protective equipment : Protective clothing. Protective goggles.

Emergency procedures : If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, material to containers for disposal. Close container tightly and dispose of properly. Evacuate unnecessary personnel.
6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Notify authorities if product enters sewers or public waters. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Transfer contaminated absorbent, soil and other material to containers for disposal. Close container tightly and dispose of properly.
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Containers may be hazardous when emptied. Since emptied containers retain product residues, all hazard precautions given in the data sheet should be observed. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep away from heat, sparks, and flames. Emptied containers may retain product residues. Precautions apply to emptied containers. Keep only in the original container in a cool, well ventilated place away from:
Incompatible products: Sources of ignition. Direct sunlight.
Incompatible materials: Strong bases. 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></th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>860, DURAGLOSS HD ALUMINUM CLEANER &amp; BRIGHTENER</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (ppm)</th>
<th>ACGIH STEL (ppm)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>butyl glycolether (111-76-2)</td>
<td>20 ppm</td>
<td>20 ppm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>phosphoric acid, conc&gt;=25%, aqueous solutions (7664-38-2)</td>
<td>2.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>ammonium hydrogen difluoride, 0.1%&lt;=conc&lt;1%, aqueous solutions (1341-49-7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.
Eye protection: Chemical goggles or safety glasses.
Respiratory protection: Wear appropriate mask.
### 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>Clear Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Purple</td>
</tr>
<tr>
<td>Odor</td>
<td>Butyl</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>1 - 2</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No Data</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>212 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 200 °F</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>140 @ 130.0 F</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>H2O= &lt;1</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Water: Solubility in water of component(s) of the mixture:</td>
<td>* : * :</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, loud</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 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. Not established.

#### 10.3. Possibility of hazardous reactions

Not established.

#### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials

Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. fume.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified
butyl glycolether (111-76-2)
LD50 oral rat 1746 mg/kg body weight (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rat > 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LC50 inhalation rat (mg/l) 2.2 mg/l/4h (Rat; Experimental value)
LC50 inhalation rat (ppm) 450 ppm/4h (Rat; Experimental value)
ATE US (oral) 1746.000 mg/kg body weight
ATE US (dermal) 1100.000 mg/kg body weight
ATE US (gases) 450.000 ppmV/4h
ATE US (vapors) 2.200 mg/l/4h
ATE US (dust, mist) 2.200 mg/l/4h

ammonium hydrogen difluoride, 0.1%<=conc<1%, aqueous solutions (1341-49-7)
ATE US (oral) 100.000 mg/kg body weight

12.1. Toxicity
butyl glycolether (111-76-2)
LC50 fish 1 1474 ppm (96 h; Oncorhynchus mykiss)
EC50 Daphnia 1 1550 mg/l (48 h; Daphnia magna)
Threshold limit algae 1 911 mg/l (72 h; Pseudokirchneriella subcapitata)
Threshold limit algae 2 88 mg/l (72 h; Pseudokirchneriella subcapitata)

12.2. Persistence and degradability
butyl glycolether (111-76-2)
Persistence and degradability Readily biodegradable in water. Low potential for adsorption in soil. Photooxidation in the air.

ammonium hydrogen difluoride, 0.1%<=conc<1%, aqueous solutions (1341-49-7)
LC50 fish 1 > 2.3 mg/l (Pisces)

12.2. Persistence and degradability
phosphoric acid, conc>=25%, aqueous solutions (7664-38-2)
Persistence and degradability Biodegradability: not applicable. No (test)data on mobility of the components available.
Biochemical oxygen demand (BOD) Not applicable
Chemical oxygen demand (COD) Not applicable
12.3. Bioaccumulative potential

860, DURAGLOSS HD ALUMINUM CLEANER & BRIGHTENER

Bioaccumulative potential: Not established.

butyl glycolether (111-76-2)

Log Pow: 0.81 (Test data; 20 °C)

Bioaccumulative potential: Low potential for bioaccumulation (Log Kow < 4).

phosphoric acid, conc>=25%, aqueous solutions (7664-38-2)

Bioaccumulative potential: Not bioaccumulative.

ammonium hydrogen difluoride, 0.1%<=conc<1%, aqueous solutions (1341-49-7)

Bioaccumulative potential: No bioaccumulation data available.

12.4. Mobility in soil

butyl glycolether (111-76-2)

Surface tension: 0.065 N/m (20 °C; 003)

12.5. Other adverse effects

Effect on ozone layer: 

Effect on the global warming: No known ecological damage caused by this product.

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

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

860, DURAGLOSS HD ALUMINUM CLEANER & BRIGHTENER

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

butyl glycolether (111-76-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

**CANADA**
No additional information available

**EU-Regulations**
No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

15.2.2. National regulations

15.3. US State regulations

**butyl glycolether (111-76-2)**
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

**SECTION 16: Other information**

Revision date : 05/28/2015
Other information : None.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3 (Oral)</td>
<td>Acute toxicity (oral) Category 3</td>
</tr>
<tr>
<td>Acute Tox. 4 (Dermal)</td>
<td>Acute toxicity (dermal) Category 4</td>
</tr>
<tr>
<td>Acute Tox. 4 (Inhalation:dust,mist)</td>
<td>Acute toxicity (inhalation:dust,mist) Category 4</td>
</tr>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral) Category 4</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Flam. Liq. 4</td>
<td>Flammable liquids Category 4</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation Category 1B</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>H227</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.