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

1.1. Product identifier
Product form: Mixture
Product name: BlueDEF Diesel Exhaust Fluid

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Solution for NOx reduction in SCR systems

1.3. Details of the supplier of the safety data sheet
Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number
Emergency number: (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Not classified

2.2. Label elements
GHS-US labelling
Signal word (GHS-US): None
Hazard statements (GHS-US): None
Precautionary statements (GHS-US): None

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>% by wt</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>67.5</td>
<td>Not classified</td>
</tr>
<tr>
<td>urea</td>
<td>(CAS No) 57-13-6</td>
<td>32.5</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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: Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact: 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: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion: 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.
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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
No additional information available

5.3. Advice for firefighters
Firefighting instructions: 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: The EPA has no established reportable quantity for spills for this material, secondary containment is not specified.

6.1.1. For non-emergency personnel
Emergency procedures: 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
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
Methods for cleaning up: Dilute with plenty of water and mop 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: 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: Keep only in the original container in a cool, well ventilated place away from: Direct sunlight, Heat sources. Keep container closed when not in use.
Incompatible products: Strong bases. Strong acids.
Incompatible materials: Sources of ignition. Direct sunlight.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
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>Color</td>
<td>Colorless; Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>ammonia odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>9 - 10</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Freezing point</td>
<td>-11 °C (12 ºF)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 100 °C (212 ºF)</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</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>Not Applicable</td>
</tr>
<tr>
<td>Relative vapor density at 20 ºC</td>
<td>0.6 H2O, &gt;1</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.09</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</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>
</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.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases. oxidizing agents (peroxides, chromates, dichromates).

10.6. Hazardous decomposition products


SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
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<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rat</th>
<th>LD50 dermal rabbit</th>
<th>ATE US (oral)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8,471 mg/kg (Rat)</td>
<td>&gt; 3,200 mg/kg (Rat)</td>
<td>&gt; 21,000 mg/kg (Rabbit)</td>
<td>8,471 mg/kg bodyweight</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**: Not classified
**pH**: 9 - 10

**Serious eye damage/irritation**: Not classified
**pH**: 9 - 10

**Respiratory or skin sensitisation**: Not classified
**Germ cell mutagenicity**: Not classified
**Carcinogenicity**: Not classified

**Reproductive toxicity**: Not classified
**Specific target organ toxicity (single exposure)**: Not classified
**Specific target organ toxicity (repeated exposure)**: Not classified

**Aspiration hazard**: Not classified
**Potential adverse human health effects and symptoms**: Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

### 12.1. Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LC50 fish 1</th>
<th>EC50 Daphnia 1</th>
<th>LC50 fish 2</th>
<th>EC50 Daphnia 2</th>
<th>TLM fish 1</th>
<th>Threshold limit other aquatic organisms 1</th>
<th>Threshold limit other aquatic organisms 2</th>
<th>Threshold limit algae 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 6,810 mg/l (96 h; Leuciscus idus)</td>
<td>&gt; 10,000 mg/l (48 h; Daphnia magna)</td>
<td>17,500 mg/l (96 h; Poecilia reticulata)</td>
<td>&gt; 10,000 mg/l (24 h; Daphnia magna)</td>
<td>17,500 ppm (96 h; Poecilia reticulata)</td>
<td>120,000 mg/l (16 h; Bacteria; Toxicity test)</td>
<td>&gt; 10,000 mg/l (Pseudomonas putida)</td>
<td>&gt; 10,000 mg/l (168 h; Scenedesmus quadricauda)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Component</th>
<th>Persistence and degradability</th>
<th>ThOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inherently biodegradable. Hydrolysis in water.</td>
<td>0.27 g O₂/g substance</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Component</th>
<th>BCF fish 1</th>
<th>BCF other aquatic organisms 1</th>
<th>Log Pow</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (72 h; Brachydanio rerio; Fresh water)</td>
<td>11700 (Chlorella sp.)</td>
<td>-2.59 - -1.59</td>
<td>Bioaccumulation: not applicable.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

### 12.5. Other adverse effects

**Effect on ozone layer**: 

**Effect on 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. As a non-hazardous liquid waste, it should be solidified with stabilizing agents such as sand, fly ash, or clay absorbent, so that no free liquid remains before disposal to an industrial waste landfill.

Ecology - waste materials: Avoid release to the environment.

**SECTION 14: Transport information**

Not a dangerous good in sense of transport regulations

Other information: No supplementary information available.

**ADR**

No additional information available

**Transport by sea**

UN-No. (IMDG): Not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

**Air transport**

UN-No. (IATA): Not regulated by IATA (in quantities under 5,000 lbs in any one inner package)

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

<table>
<thead>
<tr>
<th>BlueDEF Diesel Exhaust Fluid</th>
<th>EPA TSCA Regulatory Flag</th>
<th>This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TCSA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RQ (Reportable quantity, section 304 of EPA’s List of Lists)</td>
<td>None. This material is not classified as hazardous under U.S. EPA regulations.</td>
</tr>
<tr>
<td></td>
<td>SARA Section 302 Threshold Planning Quantity (TPQ)</td>
<td>No extremely hazardous substances are in this product</td>
</tr>
<tr>
<td></td>
<td>SARA Section 311/312 Hazard Classes</td>
<td>Urea. No hazards resulting from the material as supplied.</td>
</tr>
</tbody>
</table>

| urea (57-13-6) | SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

**15.2. International regulations**

**CANADA**

<table>
<thead>
<tr>
<th>BlueDEF Diesel Exhaust Fluid</th>
<th>WHMIS Classification</th>
<th>Uncontrolled product according to WHMIS classification criteria</th>
</tr>
</thead>
</table>

**WHMIS Classification**

Uncontrolled product according to WHMIS classification criteria

**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**

<table>
<thead>
<tr>
<th>BlueDEF Diesel Exhaust Fluid</th>
<th>Canadian Enviromental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).</th>
</tr>
</thead>
</table>

**15.3. US State regulations**

<table>
<thead>
<tr>
<th>BlueDEF Diesel Exhaust Fluid</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

03/18/2015 EN (English) 5/6
SECTION 16: Other information

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 0 - Materials that will not burn.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 0 Minimal Hazard
Physical : 0 Minimal Hazard
Personal Protection : B

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