SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

GHS product identifier: Diesel Emission Fluid, Ultra Pure DEF Diesel Exhaust Fluid
Code: 9949
Product type: Liquid.
Other means of identification: DEF 32.5%
Recommended use of the chemical and restriction on use: Use only in diesel engines equipped with certified equipment

Details of the supplier of the safety data sheet
Manufacturer Address: U.S. Lubricants, A Division of U.S. Venture, Inc.
425 Better Way
Appleton, WI 54915

Emergency telephone number
Company Phone Number 800-490-4900
24 Hour Emergency Phone Number 800-688-4005 DTCG84-01-A-900043

2. HAZARDS IDENTIFICATION

Physical hazards: Not classified.
Health hazards: Skin corrosion/irritation – Category 2
Environmental hazards: Not classified.
OSHA defined hazards: Not classified

GHS label elements
Hazard pictograms:

Signal word: Warning
Hazard statements: Causes skin irritation

Precautionary statements
Prevention: Wash thoroughly after handling. Wear protective gloves.
Response: IF ON SKIN: Wash with plenty of water. Specific treatment (See this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Storage: Store away from incompatible materials.
Disposal: Dispose of waste and residues in accordance with local authority requirements.
Hazards not otherwise classified: None known.
Supplemental information: None.

3. COMPOSITION/INFORMATION ON INGREDIENTS
4. FIRST AID MEASURES

**Description of necessary first aid measures**

**Inhalation**
- Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
- Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Eye contact**
- Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
- Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**
- Skin irritation. May cause redness and pain

**Indication of immediate medical attention and special treatment needed**
- Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information**
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

**Extinguishing media**
- Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)

**Suitable extinguishing media**
- Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
- During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
- Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire-fighting equipment/instructions**

**Specific methods**
- Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
- No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES
**7. HANDLING AND STORAGE**

**Precautions for safe handling**
- Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**
- Store in original tightly close container. Store away from incompatible materials (see Section 10 of the SDS)

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Occupational exposure limits**

**U.S. Workplace Environmental Exposure Level (WEEL) Guides**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>UREA (CAS 57-13-6)</td>
<td>TWA</td>
<td>10 mg/m3</td>
<td>Total particulate</td>
</tr>
</tbody>
</table>

**Biological limit values**
- No biological exposure limits noted for the ingredient(s).

**Appropriate 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. Eye wash facilities and emergency shower must be available when handling this product.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
- Face shield is recommended. Wear safety glasses with side shields (or goggles).
Hand protection : Wear appropriate chemical resistant gloves.

Other : Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards : Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Physical state : Liquid.
Form : Liquid
Color : Straw [Light]
Odor : Ammoniacal.
Odor threshold : Not available.
pH : Not available.
Melting point / Pour point : 270.86°F (132.7°C) estimated
Initial boiling point and boiling range : > 223°F (>106.11°C)
Flash point : Not available.
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive (flammable) limits : Not available.
Vapor pressure : 0.00001 hPa estimated
Vapor density : Not available.
Relative density : Not available.
Solubility(ies) : Water – 100%
Partition coefficient: n-octanol/water : Not available.
Auto-ignition temperature : Not available.
Decomposition temperature : Not available.
Viscosity : Not available

Other information
Density : 1.32 g/cm3 estimated
Percent volatile : 68.0% estimated
Specific gravity : 1.14

10. STABILITY AND REACTIVITY

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

Chemical stability : Material is stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerization does not occur.

Conditions to avoid : Contact with incompatible materials. Avoid temperatures above 266°F (130°C)

Incompatible materials : Strong oxidizing agents.
Hazardous decomposition products: No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>UREA (CAS 57-13-6)</td>
<td>Mouse</td>
<td>11500 mg/kg</td>
</tr>
<tr>
<td>Acute Oral LD50</td>
<td>Rat</td>
<td>8471 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Sheep</td>
<td>28500 mg/kg</td>
</tr>
<tr>
<td>Other LD50</td>
<td>Mouse</td>
<td>4600 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>5300 mg/kg</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
Causes skin irritation

Serious eye damage/eye irritation
Direct contact with eyes may cause temporary irritation

Respiratory sensitization
Not available

Skin sensitization
This product is not expected to cause skin sensitization

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGH, NTP, or OSHA

OSHA specifically regulated substances (29 CFR 1910.1001-1050)
Not listed

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects

Specific target organ toxicity – single exposure
Not classified.

Specific target organ toxicity – repeated exposure
Not classified.

Aspiration hazard
Not available.

Chronic effects
Prolonged inhalation may be harmful.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment
<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>UREA (CAS 57-13-6)</td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50 Water Flea (Daphnia magna)</td>
<td>3910 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50 Mozambique tilapia (Tilapia mossambica)</td>
<td>590 – 730 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

*Estimates for product may be based on additional component data not shown.

**Persistence and degradability**
No data is available on the degradability of this product.

**Bioaccumulative potential**
No data available.

**Partition coefficient n-octanol/water (log Kow)**
UREA -2.11

**Mobility in soil**
No data available.

**Other adverse effects**
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component

### 13. DISPOSAL CONSIDERATIONS

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues/unused products**
Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see Disposal instructions).

**Contaminated packaging**
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. TRANSPORT INFORMATION

**DOT**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC CODE**
This substance/mixture is not intended to be transported in bulk.
15. REGULATORY INFORMATION

U.S. Federal regulations

This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910, 1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed

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

Sara 302 Extremely hazardous substance
Not listed

SARA 311/312 Hazardous chemical
No

313 (TRI reporting)
Not regulated

Other federal regulations

Clean Air Act (CAA Section 112 Hazardous Air Pollutants (HAPs) List)
Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated

Safe Drinking Water Act (SDWA)
Not regulated

U.S. State regulations

U.S. Massachusetts RTK Substance List
Not regulated

U.S. New Jersey Worker and Community Right-to-Know Act
Not listed

U.S. Pennsylvania Worker and Community Right-to-Know Act
Not listed

U.S. Rhode Island RTK
Not regulated

U.S. California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This
material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (Yes/No)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NSDL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States and Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA Inventory)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A “No” indicates that one or more of the components of the product are not listed or exempt from listing on the inventory administered by the governing country(s)

**16. OTHER INFORMATION**

**History**
Date of issue mm/dd/yyyy : 07-07-2014
Version : 2
Prepared by : US Lubricants

**HMIS® ratings**
Health: 2
Flammability: 0
Physical hazard: 0
Personal protection: D

**NFPA ratings**
Health: 2
Flammability: 0
Instability: 0
Disclaimer
The information provided in this Material 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.

End of Safety Data Sheet