

# Safety Data Sheet

Issue Date: 22-Dec-2014

Revision Date: 26-May-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** PURUS DEF (Diesel Exhaust Fluid ISO 22241)

### Other means of identification

**SDS #** PUR-011, PHD10007, PHD10008, PHD10004, PHD10001, PHD10002, PHD10026, PHD10027

### Recommended use of the chemical and restrictions on use

**Recommended Use** Diesel Exhaust NOx Reducing Agent

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Warren Oil Company  
915 E. Jefferson Ave.  
West Memphis, AR 72301

#### **Manufactured for:**

AIOD  
P.O. Box 1861  
Montrose, CO 81402  
970-249-6336 www.purusproducts.com

### Emergency Telephone Number

**Company Phone Number** 1-800-428-9284  
**Emergency Telephone (24 hr)** Chemtrec 1-800-424-9300 (North America) 1-703-527-3887 (International)

## 2. HAZARDS IDENTIFICATION

### **Classification of the Substance or Mixture**

#### **Classification (GHS-US)**

Not classified

### **Label Elements**

**GHS-US Labeling** No labeling applicable

### **Other Hazards**

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

**Unknown Acute Toxicity (GHS-US)** No data available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substances**

Not applicable

**Mixture**

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Water	(CAS No) 7732-18-5	67.5	Not classified
Urea	(CAS No) 57-13-6	32.5	Not classified

### 4. FIRST-AID MEASURES

**Description of 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).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness develops or persists.

**Ingestion:** Rinse mouth. DO NOT induce vomiting. Obtain medical attention.

**Most Important Symptoms and Effects Both Acute and Delayed**

**General:** Not expected to present a significant hazard under anticipated conditions of normal use.

**Inhalation:** Prolonged exposure to liquid may cause a mild irritation.

**Skin Contact:** May cause mild skin irritation.

**Eye Contact:** Prolonged exposure to liquid may cause a mild irritation.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** Not available

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

If exposed or concerned, get medical advice and attention.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of a heavy stream of water may spread fire.

**Special Hazards Arising From the Substance or Mixture**

**Fire Hazard:** Not considered flammable but may burn at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Advice for Firefighters**

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Oxides of Carbon, Nitrogen, Ammonia.

**Reference to Other Sections**

Refer to Section 9 for flammability properties.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Avoid breathing (vapor, mist, spray). Avoid prolonged contact with eyes, skin and clothing.

#### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Stop leak if safe to do so. Ventilate area.

### Environmental Precautions

Prevent entry to sewers and public waters. Contact competent authorities after a spill

### 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:** Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container.

### Reference to Other Sections

See Section 8, Exposure Controls and Personal Protection.

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling

**Additional Hazards When Processed:** When heated to decomposition, emits toxic fumes.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool, and well-ventilated place. Keep container closed when not in use. Keep/Store away from extremely high or low temperatures, incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Alkalis.

### Specific End User(s)

Diesel Exhaust NOx Reducing Agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

No additional information available.

### Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

**Personal Protective Equipment:** In case of splash hazard: safety glasses



**Materials for Protective Clothing:** Not applicable.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** In case of splash hazard: chemical goggles or safety glasses.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

**Other Information:** When using, do not eat, drink, or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless, clear
<b>Odor</b>	Slight Ammonia
<b>Odor Threshold</b>	Not available
<b>pH</b>	9.8 – 10
<b>Evaporation Rate</b>	Not available
<b>Melting Point</b>	Not available
<b>Freezing Point</b>	-12°C (54°F)
<b>Boiling Point</b>	104°C (219°F)
<b>Flash Point</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not available
<b>Lower Flammable Limit</b>	Not available
<b>Upper Flammable Limit</b>	Not available
<b>Vapor Pressure</b>	Not available
<b>Relative Vapor Density at 20°C</b>	Not available
<b>Relative Density</b>	Not available
<b>Specific gravity / density</b>	9.0909 lbs. / USG – 4.13 kg / 3.785L @ 20°C (68°F)
<b>Specific gravity</b>	1.087-1.093 @ 20°C (68°F)
<b>Solubility</b>	100%
<b>Partition Coefficient: N-Octanol/Water</b>	Not available
<b>Viscosity</b>	Not available
<b>Explosion Data – Sensitivity to Mechanical Impact</b>	Not expected to present an explosion hazard due to mechanical impact.
<b>Explosion Data – Sensitivity to Static Discharge</b>	Not expected to present an explosion hazard due to static discharge.

## 10. STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable under recommended handling and storage conditions (see Section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Extremely high or low temperatures. Incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Alkalis.

**Hazardous Decomposition Products:** Nitrogen oxides. Irritating fumes. Ammonia. Carbon oxides (CO, CO

## 11. TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects – Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion / Irritation:** Not classified

**pH:** 9.8-10

**Serious Eye Damage / Irritation:** Not classified

**pH:** 9.8-10

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified

**Carcinogenicity:** Not classified  
**Specific Target Organ Toxicity (Repeated Exposure):** Not classified  
**Reproductive Toxicity:** Not classified  
**Specific Target Organ Toxicity (Single Exposure):** Not classified  
**Aspiration Hazard:** Not classified  
**Symptoms/Injuries After Inhalation:** Prolonged exposure to liquid may cause a mild irritation.  
**Symptoms/Injuries After Skin Contact:** May cause mild skin irritation.  
**Symptoms/Injuries After Eye Contact:** Prolonged exposure to liquid may cause a mild irritation.  
**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

#### Information on Toxicological Effects – Ingredient(s)

##### LD50 and LC50 Data:

<b>Water (7732-18-5)</b>	
<b>LD50 Oral Rat</b>	>90000 mg/kg
<b>Urea (57-13-6)</b>	
<b>LD50 Oral Rat</b>	8471 mg/kg

## 12. ECOLOGICAL INFORMATION

**Toxicity** No additional information available

<b>Urea (57-13-6)</b>	
<b>LC50 Fish 1</b>	16200 – 18300 mg/l (Exposure time: 96 h – Species: Poecilia reticulata)
<b>EC50 Daphnia 1</b>	3910 mg/l (Exposure time: 48 h – Species: Daphnia magna [Static])

#### Persistence and Degradability

<b>Diesel Exhaust Fluid</b>	
<b>Persistence and Degradability</b>	Not established.

#### Bioaccumulative Potential

<b>Diesel Exhaust Fluid</b>	
<b>Bioaccumulative Potential</b>	Not established.

<b>Urea (57-13-6)</b>	
<b>BCF Fish 1</b>	< 10
<b>Log Pow</b>	-1.59 (at 25°C)

**Mobility in Soil:** Not available

**Other Adverse Effects**

**Other Information:** Avoid release to the environment.

## 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

## 14. TRANSPORT INFORMATION

<b>In Accordance with DOT:</b>	Not regulated for transport
<b>In Accordance with IMDG:</b>	Not regulated for transport
<b>In Accordance with IATA:</b>	Not regulated for transport
<b>In Accordance with TDG:</b>	Not regulated for transport

## 15. REGULATORY INFORMATION

**US Federal Regulations****Water (7732-18-5)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Urea (57-13-5)**

Listed on the United State TSCA (Toxic Substances Control Act) inventory

**US State Regulations****Urea (57-13-6)**

U.S. – Minnesota – Hazardous Substance List

U.S. – Texas – Effects Screening Levels – Long Term

U.S. – Texas – Effects Screening Levels – Short Term

**Canadian Regulations****Diesel Exhaust Fluid**

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

**Water (7732-18-5)**

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

**Urea (57-13-6)**

Listed on Canadian DSL (Domestic Substances List)

WHMIS Classification | Uncontrolled product according to WHMIA classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

## 16. OTHER INFORMATION

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**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

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29-Oct-2013

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26-May-2015

**Revision Note:**

New format

**DISCLAIMER**

The information provided in this 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**