Safety Data Sheet

Issue Date: 22-Dec-2014 **Review Date:** 22- April-2024 **Version** 1

1. IDENTIFICATION

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

Other means of identification
SDS # PUR-011, PHD10003, PHD10008, PHD10007, PHD10004, PHD10001, PHD10002, PHD10026, PHD10027, PHD10025, PHD10028

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

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

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

12. ECOLOGICAL INFORMATION

Toxicity No additional information available

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

Persistence and Degradability

Diesel Exhaust Fluid	
Persistence and Degradability	Not established.

Bioaccumulative Potential

Diesel Exhaust Fluid	
Bioaccumulative Potential	Not established.

Urea (57-13-6)	
BCF Fish 1	**<** 10
Log Pow	-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

In Accordance with DOT: Not regulated for transport
In Accordance with IMDG: Not regulated for transport
In Accordance with IATA: Not regulated for transport
In Accordance with TDG: 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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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