



DEF ISO 22241

» WHAT IS BLUEDEF?

BlueDEF is the fluid that is used in Selective Catalytic Reduction(SCR) systems on diesel engines to reduce NOx.

What is Selective Catalytic Reduction (SCR)?

SCR is an acronym for Selective Catalytic Reduction. SCR is a technology that uses a urea based diesel exhaust fluid (DEF) and a catalytic converter to significantly reduce oxides of nitrogen (NOx) emissions. SCR is being used by almost all OEM manufacturers.

How does an SCR System work?

The purpose of the SCR system is to reduce levels of NOx (oxides of nitrogen emitted from engines) that are harmful to our health and the environment. SCR is the after-treatment technology that treats exhaust gas downstream of the engine. Small quantities of diesel exhaust fluid (DEF) are injected into the exhaust upstream of a catalyst, where it vaporizes and decomposes to form ammonia and carbon dioxide. The ammonia (NH₃) is the desired product which, in conjunction to the SCR catalyst, converts the NOx to harmless nitrogen (N₂) and water (H₂O).

What is BlueDEF for?

When used in an SCR system, BlueDEF will reduce the levels of NOx emissions of those engines.

What is BlueDEF made of?

BlueDEF is a high-purity, 32.5% strength urea solution and deionized water.

What is Urea?

Urea is a compound of nitrogen that turns to ammonia when heated. It is used in a variety of industries, including as a fertilizer in agriculture.

Where is BlueDEF available?

It is available at most truck stops, automotive retailers and through Old World Industries or an authorized Old World supply partner.

Why use a 32.5% Urea Solution?

The 32.5% urea concentration is the ideal solution as it provides the lowest freeze point. Also, SCR systems will be calibrated to the 32.5% solution, so that optimum NOx will be reduced during operation.

What is the freeze point of DEF?

A 32.5% solution of DEF will begin to crystallize and freeze at 12 deg F (-11 deg C). At 32.5%, both the urea and water will freeze at the same rate, ensuring that as it thaws, the fluid does not become diluted, or over concentrated.

Does DEF expand when frozen?

Yes, DEF expands by approximately 7% when frozen. DEF packaging and tanks are designed to allow for expansion.

How do I keep DEF from freezing? What happens if the DEF freezes in the tank on the vehicle?

During vehicle operation, SCR systems are designed to provide heating for the DEF tank and supply lines. If DEF freezes when the vehicle is shut down, start up and normal operation of the vehicle will not be inhibited. The SCR heating system is designed to quickly return the DEF to liquid form and the operation of the vehicle will not be affected.

Does it need to meet any quality standards?

Yes, it needs to meet the ISO 22241 quality standard.

Is it hazardous, toxic or flammable?

No, BlueDEF is not hazardous, toxic or flammable.

Is DEF corrosive?

DEF is corrosive to copper and brass as well as other materials. Only approved materials as listed in the ISO standard should be used.

What has happened to make DEF necessary?

The EPA has mandated the reduction of NOx emissions released into the environment.

How is BlueDEF carried on the vehicle?

BlueDEF is stored in a designated tank on the vehicle. It is then replenished like fuel.

What happens if the vehicle runs out of DEF?

Many vehicles are equipped with a DEF gauge on the dash to alert the driver on the fluid level. If the level becomes low an alert will let the driver know the DEF level needs to be replenished. If the driver runs out completely, the vehicle power will be reduced to encourage the operator to refill the DEF tank. Once the DEF tank is refilled, normal power levels will be restored on the vehicle.

Does BlueDEF mix with fuel?

No, it is not an additive. It is sprayed into the exhaust stream where it is hydrogenated before the catalytic converter effects the breakdown into nitrogen and water.

How much DEF will I need?

DEF is consumed at a rate of approximately 3-5% by volume to diesel consumption.

CHEMISTRY THAT DRIVES COMMERCE™



BlueDEF™

DIESEL EXHAUST FLUID, STORAGE & DISPENSING EQUIPMENT



FOR CUSTOMER SERVICE OR TECHNICAL ASSISTANCE CALL 1-800-477-5847

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Part # BDBR021

» DRUM SYSTEMS



DEFDPPH (Manual Poly Nozzle)

Drum Hand Pump System

- > Manual lever hand pump
- > Manual poly nozzle with lock pin feature
- > 20' DEF dispense hose
- > Expandable downtube
- > Drum thread adapter included



DEFDP120 (120V Poly Nozzle)

Drum Pump System

- > 120V axial gear pump (120v 60HZ)
- > Self resetting thermal protection motor
- > Manual poly nozzle/14' DEF hose
- > Flow Rate: 7-10 GPM
- > Drum thread adapter included

DEFDP12V (12V Poly Nozzle)

Drum Pump System

- > 12V axial gear pump

» TOTE SYSTEMS



DEFTP120SN (120V SS Nozzle)

Tote Pump System with Stainless Steel Automatic Shut-Off Nozzle

- > Stainless steel automatic shut-off nozzle/20' DEF hose
- > Self-priming diaphragm pump with integrated bypass
- > Mounting bracket
- > Flow Rate: 8-10 GPM
- > Pre-installed hose fittings

DEFTP120MN (120V Poly Nozzle)

Tote Pump System with Poly Nozzle

- > Manual poly nozzle/20' DEF hose



DEFTP12VMN (12V Poly Nozzle)

Tote Pump System with Poly Nozzle

- > Self-priming diaphragm pump with integrated bypass
- > Mounting bracket
- > Manual poly nozzle/20' DEF hose
- > Flow Rate: 7-10 GPM
- > 10' power cable with battery terminal clips

» ACCESSORIES



DEF5702

Dispense Coupler

- > Heavy duty glass reinforced nylon/polypropylene construction for durability and long life
- > Integrated one-way check valve
- > Compatible with poly and stainless steel 4-pin valve system



DEFMTR

Digital Flow Meter

- > In line digital meter
- > Stainless steel meter housing
- > Turbine measuring system
- > Adjustable unit output



DEFDR-C

Drum Transfer Cart

- > Robust, heavy duty steel 3 wheel drum cart
- > Quality hard based rubber wheels
- > Option to add any drum dispense system



DEFHR25

Hose Reel

- > 25' hose length
- > Steel parts ensures high corrosion resistance
- > Ball bearing swivel joints
- > Easy assembly

» PREMIUM TOTE SYSTEM



DEFTPP120 (120V SS Nozzle)

Premium Tote Pump System

- > Self-priming diaphragm pump with integrated bypass
- > Mounting bracket with DEF filter and meter
- > Protective steel exterior housing
- > Stainless steel automatic shut-off nozzle/20' DEF hose
- > Flow Rate: 8-10 GPM
- > Pre-installed hose fittings

» MOBILE TRUCK TANK



DEFTT66 (66 Gallons)

DEFTT115 (115 Gallons)



- > HDPE UV resistant molded tank
- > Available in 66 or 115 gallon sizes
- > Lockable protection lid
- > Molded forklift pockets
- > 12v Self priming diaphragm pump
- > 20' DEF hose
- > Manual poly nozzle

BlueDEF RECOMMENDED SYSTEM *Storage / Dispensing Size*

USAGE IN GALLONS	DRUM SYSTEM	TOTE SYSTEM	PLUG AND PUMP STATIONARY SYSTEM
# OF SCR UNITS	1-5	8-13	13+
DIESEL FUEL GAL. PER WK.	500-2,000	3,000-5,000	5,000+
PER WEEK	30-120	180-300	300+
PER MONTH	120-480	720-1,200	1,200+
PER YEAR	1,440-5,670	8,640-14,400	14,400+

BlueDEF storage tanks and dispensing systems offer several tank sizes, state-of-the-art filtration units and all other necessary DEF compatible components. All dispensing systems come standard with fittings and venting components needed to maintain your DEF purity.

» PLUG AND PUMP STATIONARY TANKS

Available in 396, 660 and 1,320 Gallons

- > Double wall HDPE tanks w/ UV resistant material
- > Tank fluid level indicator by percentage
- > Optical and visual leak alarm
- > Lockable fill door
- > 3 year warranty pump system
- > 20' DEF hose
- > Stainless inline digital meter
- > Stainless automatic DEF nozzle
- > Insulated/heated options also available



DEFPNP396 (396 Gallons)



DEFPNP660 (660 Gallons)



DEFPNP1320 (1320 Gallons)

» MINI BULK SYSTEM



SYSTEM CONTAINS

- > Pre-wired 120V design standard
- > Heavy duty steel housing panels
- > LED level display with high & low indicators
- > Overfill valve assembly
- > High density polyethylene tank with no bottom or side-wall penetrations
- > Additional bulkhead ports for level monitoring or other instrumentation
- > 1/2 HP submersible DEF pump(s)

OPTIONS

- > Probe adapter kit
- > 1/3 HP or 1 HP submersible DEF pump
- > Ability to connect to any 3rd party dispenser

MINI BULK SYSTEM

TANK SIZE* (Gallons)	LxWxH (Inches)	WEIGHT (Pounds)
792	108" x 44.3" x 104"	~800 lbs
1300	155" x 44.3" x 104"	~1600 lbs

MINI BULK BENEFITS

44.3" WIDE BASE
Easily fits on standard fuel island

ABOVE GROUND SYSTEM
Eliminates breaking up concrete and reduces downtime

AFFORDABLE & SAVES TIME
50% less installation cost
Installed as quickly as 1 day

Integrates with All DEF Dispensers

WEATHER-TIGHT CONTROL PANEL

792 GAL

1300 GAL

792 GAL- 1,300 GAL

