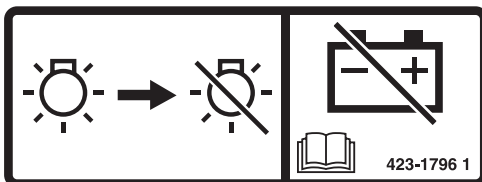


UNDERSTANDING DIESEL EXHAUST FLUID

- DO NOT** use any other fluid in the DEF tank, such as diesel fuel, water, antifreeze, beverages, etc. Only use DEF that meets ISO 22241-1 standards.
- DO NOT** use additives to prevent freezing.
- DO NOT** make your own DEF solution. DEF must meet the ISO 22241-1 standard to prevent potential SCR system damage.
- DO NOT** use incorrect dispensing materials, such as metal funnels, steel transfer containers, incorrect pumps, steel fittings, etc. Only use materials specifically designed for DEF.
- DO NOT** use contaminated transfer containers. Only use clean containers that are dedicated for DEF.
- DO NOT** fill the DEF tank without first cleaning the fill area.
- DO NOT** store DEF in direct sunlight or in high ambient temperatures.
- DO NOT** operate Cat products requiring DEF with an empty DEF tank. Always fill the DEF tank when refueling the product.
- DO NOT** turn off the master disconnect until the "wait to disconnect" lamp turns off, unless an emergency requires immediate battery isolation.



Questions? Contact your local Cat dealer.

YEGT3007

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UNDERSTANDING DIESEL EXHAUST FLUID

UNDERSTANDING DIESEL EXHAUST FLUID



What is Diesel Exhaust Fluid (DEF)?

Diesel Exhaust Fluid (DEF) is a precisely mixed solution of 32.5% high purity chemical grade urea and 67.5% de-ionized water that is injected into the exhaust system to reduce NOx emissions in Cat® engines equipped with a Selective Catalytic Reduction (SCR) system. DEF used in Cat SCR systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241-1. ISO 22241-1 requirements are met by many brands of DEF, including those that carry the AdBlue or API certifications.

How much DEF will I need?

On Cat products equipped with a SCR system, DEF consumption is approximately 2-3% of fuel consumption depending on the product and application. The DEF tank has a 1:1 fill rate with the fuel tank. If fuel is added, DEF needs to be added. The DEF fill cap is an industry standard blue and easily identifiable on the product.

Are there storage requirements?

DEF should be stored in a cool, dry, well-ventilated area. The ideal storage temperature for DEF is between 15°F and 77°F (-9°C and 25°C). It should not be exposed to direct sunlight for long periods of time as the urea will decompose. Refer to ISO 22241-3 for further information regarding DEF handling, transportation and storage.

Is DEF corrosive?

Yes. DEF is corrosive to many different materials, **proper dispensing equipment and practices must be utilized.**

Failure to use DEF specific tooling and fittings will result in corrosion and contamination of the DEF supply. **As few as one incorrect fitting could contaminate the DEF supply and may lead to emission system faults and engine shutdown.**

DEF spills should be cleaned immediately, and machine or engine surfaces should be wiped clean and rinsed with water.



Are there recommendations for dispensing?

Yes. Automatic dispensing units provide safe guards for DEF dispensing. Every Cat DEF tank is equipped with a magnet in the fill port. The automatic dispensing DEF nozzle has lever protection, if the magnet is not detected, DEF will not be dispensed. This prevents the DEF tank from being overfilled and DEF from being dispensed into the fuel tank, hydraulic oil tank, windshield washer tank, etc.



Is contamination a concern?

Yes. DEF cleanliness is extremely important as contaminants can degrade the life of DEF and SCR system components. Several points to consider are:

- Clean the fill area prior to refilling
- Avoid transfer containers when possible
- If transfer containers are used, keep the container clean and dedicated for DEF

Poor handling practices will contaminate the DEF supply and potentially lead to fault codes and emission system failures.

