

Diesel Exhaust Fluid (DEF)

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Diesel Exhaust Fluid is used as a reduction agent in the SCR part of the EAS-3 system.

DEF is a nonflammable, non-toxic, colorless, odorless, water-soluble liquid. The common abbreviation for Diesel Exhaust Fluid is DEF.

DEF is a liquid consisting of 32.5% urea and 67.5% demineralized water.

Special additives are not permitted. If DEF comes into contact with painted or aluminum surfaces when filling the tank, rinse the affected area immediately with plenty of water.

DEF must meet DIN 70070 specifications.

High temperatures

If DEF is heated in the tank to 122°F (50°C) over a long period of time, the decomposing DEF can produce ammonia vapors. Ammonia vapors have a pungent odor. For this reason, avoid inhaling ammonia vapors possibly escaping when unscrewing the DEF filler cap. These concentrations of ammonia vapors are neither toxic nor hazardous to health.

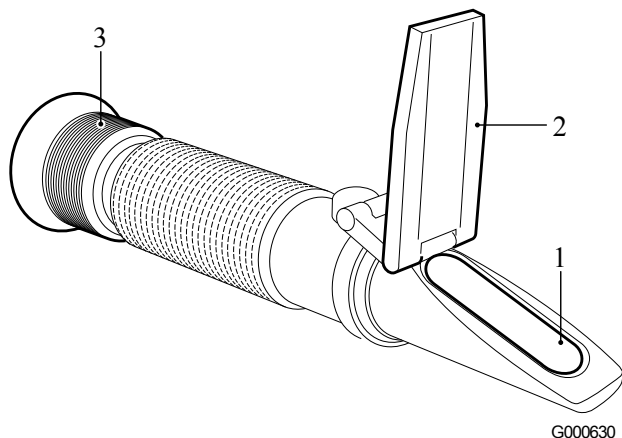
Low temperatures

DEF freezes at approximately 12°F (-11°C).

Measuring urea concentration in DEF

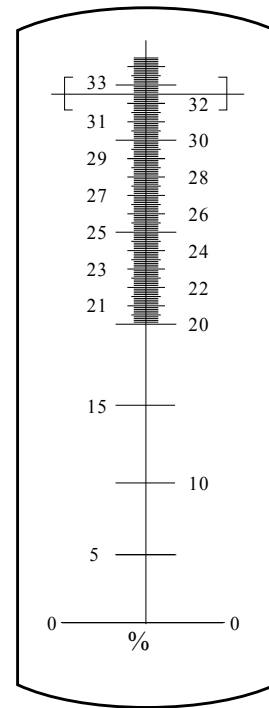
The urea concentration in DEF can be measured with a refractometer.

After carefully cleaning the prism and lift-up lid with a soft, lint-free cloth, put some drops of the sample liquid you want to measure onto the prism (1). By closing the lift-up lid (2), the sample will be distributed evenly. Point the refractometer to a light or bright background, so it is easier to recognize the scale and the bright-dark border. Rotate the eyepiece (3) until the scale is sharp to the observer. The measured value of the sample can be read out at the bright-dark border.



Refractometer scale according to ISO 22241-1 (DIN 70070) indicated for urea solution with 32.5%. The allowable deviation at 68°F (20°C) is between 31.8%

and 33.3%.



Special additives

Do not add any special additives to DEF and do not dilute DEF with tap water. This can destroy the Emission Aftertreatment System (EAS). Any damage caused by the use of such additives or tap water invalidates liability for material defects.

Storage instructions

- Use the original storage tanks only.
- Store in a cool, dry, well-ventilated area.
- Protect storage tanks from freezing.
- Observe the manufacturer's storage instructions and directions for use.

Purity

The purity of DEF is essential to avoid malfunctions of the Emission Aftertreatment System (EAS). For example, if DEF is pumped out of a tank for repair purposes, the tank must not be refilled with the liquid pumped out, because its purity is no longer guaranteed.



DEF safety instructions

- **Avoid direct contact.**
- **In the event of contact with the skin, rinse with plenty of water.**
- **In the event of contact with the eyes, rinse for at least 15 minutes with plenty of water and**

seek medical assistance.

- **If swallowed, rinse mouth with plenty of water; do not induce vomiting.**
- **Use in a ventilated area.**

Procedure after spillage

- **Rinse with plenty of water.**

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