



CHEMICAL STORAGE RECOMMENDATIONS
FROM ASSMANN CORPORATION OF AMERICA

DIESEL EXHAUST FLUID (DEF)

Diesel Exhaust Fluid (DEF) is installed on Diesel Systems, or diesel engines equipped with SCR systems to reduce nitrogen oxide emissions by converting nitrogen oxide into water vapor. More specifically, DEF is 32% Urea and 68% Deionized water. Typically used in its standard form, DEF is a clear, colorless, non-toxic liquid. DEF is primarily used in the automotive and transportation industry, especially in heavy-duty vehicles such as buses, trucks, and construction equipment. Other industries may use DEF to meet emission standards.

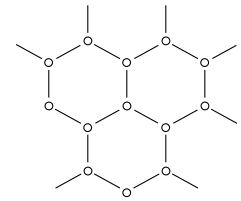
An environmentally responsible solution, Diesel Exhaust Fluid is used to reduce the amount of air pollution created by a diesel engine. In use, DEF breaks down harmful emissions into non-hazardous nitrogen and water. It's most effective to store DEF in a cool, dry, well-ventilated area, away from direct sunlight or extreme temperatures. DEF will freeze at 12°F but can thaw without degradation. Storage tanks should be sealed to prevent contamination.

ASSMANN POLYETHYLENE TANKS ARE NSF CERTIFIED

Assmann Corporation is the only manufacturer that has NSF certification for our Crosslink polyethylene in chemical storage applications. Other storage tank manufacturers do not carry the NSF certification on Crosslink polyethylene without the use of expensive liners, or they simply have potable water certification and do not have chemical certification. While selecting your storage tank, consider if NSF certification is required.



Certified to
NSF/ANSI 61



Assmann recommends that tanks be constructed of Linear or Crosslink Polyethylene, either singular or double walled.

Assmann requires that tanks be rated for a minimum of 1.5 Specific Gravity. All connections below liquid level must prevent chemicals from contacting the tank wall cross section. Additionally, our experts recommend heat tracing and insulation in outdoor applications.

Assmann's Crosslink polyethylene has a much higher softening point than conventional linear polyethylene. Crosslink also has a much higher impact resistance.

DIESEL EXHAUST FLUID (DEF)

Specific Gravity	Resin	Fitting Material	Gasket Material	Hardware
1.5	Linear or Crosslink	PVC or Polypropylene	EPDM	Stainless Steel



LINEAR OR CROSSLINK POLYETHYLENE DOUBLE WALL TANKS

Double wall plastic tanks provide the best protection against spills, making it the safest option for DEF.

The inner tank dome overlaps the outer tank sidewall to help prevent rainwater, snow, and debris from entering the containment basin, making them among our most safe tanks. Molded-in upper and lower fitting flats are standard. We can customize these tanks with either a top suction or sturdy designed bottom outlet. All double wall containment tanks are designed with wall thicknesses equal to or greater than that required by ASTM D-1998 standards.

VENTING

Venting polyethylene storage tanks is one of the most overlooked steps in storage solutions. We cannot stress how important it is that polyethylene tanks are not over-pressurized or placed under a vacuum. Our storage experts can help identify the right venting solution for your storage needs. Vent size will always be based on flow and delivery rates, but you can never have too much venting.



MANWAYS

Our most common cover, Assmann's 16" Lever Lock lids can be molded on most tanks sized between 200 and 4000 gallons. Designed with a flanged neck so the lid snap fits over — with an additional cam style lock for security — this system is a proven solution for many of our customers.



FITTINGS

Our experts recommend the following fitting materials of construction: PVC or Polypropylene for nozzles, EPDM material for Gaskets, and 316 Stainless Steel for metallic fittings and hardware. All connections below liquid level must prevent chemicals from contacting the tank wall cross section. Bulkhead-style connections can be used on tanks 2,000 gallons and below. The sidewall connections of tanks above 2,000 gallons should be 316 Stainless Steel construction. Flange style fittings are not recommended for DEF. There are no restrictions on dome fittings.

JOINTS

Flexible hoses or expansion joints must be used on all lower ½ sidewall connections. A lightweight isolation valve is permitted prior to the flexible joint. All piping must be supported independently of the tank. Pipe supports must be installed after the flexible joint to allow the tank to expand and contract under normal service conditions. Polyethylene tanks expand and contract both laterally and vertically; expansion hose or joint must accommodate this expansion.





SECONDARY CONTAINMENT

Proper design of storage solutions should include adequate containment in case of tank failure. Containment should be adequate in capacity and suitable for DEF. Typically, containment basins are sized to a minimum of 110% of the primary tank's capacity. Assmann offers both secondary containment basins and double walled tanks to meet containment requirements. Customers are responsible for checking local regulations to meet secondary containment requirements, as well as ensuring that all coatings and linings are compatible.



Certificate Number:
DAS 90024930/39/Q Rev: 001

Quality: First and Forever

Assmann polyethylene bulk storage tanks are built the right way – even if that's not the easiest or fastest way. We're the only manufacturer who uses non-shielded molds with low temperature heat and gradual air cooling. The result is truly uniform wall thickness, unparalleled certified quality, and reliability that proves itself every time and across decades.

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