



**FactsAboutSCR.com**

**SCR, 1. Selective Catalytic Reduction:**  
one of the most cost-effective and fuel-efficient vehicle emissions control technologies capable of reducing emissions to near-zero levels.

## FACTS VS. FICTION

### SPECIAL REPORT:

From the Editor of FactsAboutSCR.com

***In response to misleading information distributed by Navistar claiming urea becomes toxic at 118 degrees, the following was prepared by an expert from North American SCR Stakeholders Group.***

***NOTE:*** Different from other truck and engine manufacturers preparing to use SCR technology to meet EPA 2010 emissions standards, including Freightliner, Western Star, Volvo, Mack, Peterbilt, Kenworth, Hino, Izuzu, Detroit Diesel, Cummins among others, Navistar is pursuing a non-SCR path.

## Is it True that Urea becomes toxic at 118 degrees?

### NOT TRUE.

Urea is a nonhazardous material that does not become toxic at any temperature. Concentrated urea solutions are routinely shipped and handled at 140°F and above without issue. As for Diesel Exhaust Fluid (DEF), it too is nonhazardous. It is recommended that DEF be stored at 80°F or less for the longest shelflife, but it does not become hazardous when heated above this temperature. DEF, when heated, will very slowly hydrolyze to form small amounts of ammonia in solutions. Storage stability studies that have been conducted show that at 122°F (50°C) that DEF will still meet the ISO specifications of less than .2% ammonia for at least 35 days. At that rate, it would take more than 2 years to reach the ammonia level of household ammonia which is still not classified as a toxic material.

### For More Information Contact:

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*Jim Spooner is Vice President and General Manager of Colonial Chemical Company. He is one of the foremost authorities in Diesel Exhaust Fluid (DEF) production. He has been actively working in the field of urea chemistry for 5 years and is a member of the SAE After-treatment Standards Committee, the Auto-Alliance SCR stakeholders group and the Heavy Duty SCR stakeholders group. Mr. Spooner has made numerous presentations on DEF chemistry at NATSO, SAE and other industry meetings. He has a BS in Organic Chemistry for St Joseph's University and an MBA from Widener University and holds two US patents in the field of automotive catalysis.*