

**National Type Evaluation Program (NTEP)  
 Measuring Sector Summary  
 October 3-4, 2017 Houston, Texas  
 Addendum to Agenda Item 7. Diesel Exhaust Fluid (DEF)**

See the Final Meeting Summary of the NTEP Measuring Sector for additional information. The proposed changes to NCWM Publication 14 were complex and could not be resolved during the sector meeting due to time constraints. The sector agreed that a small group of volunteers would continue to work on the item and develop proposed changes to the Product Family Table. The proposal was then circulated to all NTEP Measuring Sector members by way of a ballot.

After additional modification and a second ballot a consensus proposal was developed and reached. The final second ballot tally was: 9-YES, 0-No and 0-ABSTAIN.

This is an addendum to the 2017 report of the NTEP Measuring Sector. The following are recommended changes to NCWM Publication 14 to add DEF as a separate line item for each meter type and to edit the physical properties of Urea in the Product Family Table. Changes are shown for each technology in a separate table. In the interest of brevity, only a couple of line items of the existing table that appear immediately before and after the proposed additions are shown.

<b>Mass Meter Product Category and Test Requirements</b>		
<b>Test B</b>		
To cover a range of the following products, test with one product having a low specific gravity and test with a second product having a high specific gravity. The Certificate of Conformance will cover all products in all product categories listed in the table under Test B within the specific gravity range tested.		
<ul style="list-style-type: none"> <li>• Test B does not apply to product categories of liquefied gases, compressed liquids, cryogenic liquids or heated products.</li> </ul>		
<i>Note: Product categories under Test B were formerly referred to collectively as "Normal Liquids."</i>		
Typical Products	Specific Gravity <sup>2</sup> (60 °F)	Product Category
...	...	...
N-P-K Solutions	1.2 – 1.4	Fert
Urea	1.3	Fert
<b>Diesel exhaust fluid</b>	<b>1.08 -1.18</b>	<b>DEF</b>
6 Oil (#5, #6)	0.9	FL&O
Asphalt		FL&O
...	...	...

<b>Magnetic Flow Meter Product Category and Test Requirements</b>		
<b>Test D</b> To obtain coverage for a product category, test with one product in the product category. The Certificate of Conformance will cover all products in the category.		
<ul style="list-style-type: none"> <li>• Test D does not apply to product categories of pure alcohols, pure glycol, pure water, solvents chlorinated, solvents general, fuels, lubricants, industrial and food grade liquid oils.</li> <li>• Test D does not apply to product categories of liquefied gases, compressed liquids or heated products.</li> </ul>		
<b>Typical Products</b>	<b>Conductivity micro Siemens/centimeter</b>	<b>Product Category</b>
...	...	...
N-P-K Solutions		Fert
Urea	5000	Fert
Diesel exhaust fluid	2000 - 5000	DEF
Liquid Molasses	300	Liq Feed
Molasses Plus Phos Acid and/or Urea (TreaChle)		Liq Feed
...	...	...

<b>Positive Displacement Meter Product Category and Test Requirements</b>	
<b>Test C</b> To cover a range of products within each product category, test with one product having a low viscosity and test with a second product having a high viscosity within each category. The Certificate of Conformance will cover all products in the product category within the viscosity range tested.	
<b>Test C</b> <b>Product Category:</b> Clear Liquid Fertilizers (Fert) and DEF	
<b>Typical Products</b>	<b>Reference Viscosity<sup>1</sup> (60 °F) centipoise (cP)</b>
...	...
Clear Liquid Fertilizer	31 – 110
N-P-K Solution	
Urea	1.7 – 1.9
Diesel exhaust fluid	1.2 – 1.7
...	...

<b>Turbine Flow Meter Product Category and Test Requirements</b>	
<b>Test A</b> The following products must be individually tested and noted on the Certificate of Conformance.	
<b>Typical Products</b>	<b>Product Category</b>
...	...
Nitrogen Solution	Fert
N-P-K Solutions	Fert
Urea	Fert
Diesel exhaust fluid	DEF
Bicep	Flow
Broadstrike	Flow
...	...

**Product Category Table – Category Abbreviations**

<b>Abbreviation</b>	<b>Product Category</b>	<b>Abbreviation</b>	<b>Product Category</b>
<b>Alc Gly</b>	<b>Alcohols, Glycols and Water Mixes Thereof</b>	<b>Fert</b>	<b>Fertilizers</b>
<b>CC-A</b>	<b>Crop Chemicals (Type A)</b>	<b>FL&amp;O</b>	<b>Fuels, Lubricants, Industrial and Food Grade Liquid Oils</b>
<b>CC-B</b>	<b>Crop Chemicals (Type B)</b>	<b>Flow</b>	<b>Flowables</b>
<b>CC-C</b>	<b>Crop Chemicals (Type C)</b>	<b>Heated</b>	<b>Heated Products (Above 50 °C)</b>
<b>CC-D</b>	<b>Crop Chemicals (Type D)</b>	<b>Liq Feed</b>	<b>Liquid Feeds</b>
<b>Chem</b>	<b>Chemicals</b>	<b>Liq CO2</b>	<b>Liquid Carbon Dioxide</b>
<b>Comp gas</b>	<b>Compressed Gases</b>	<b>Solv Chl</b>	<b>Solvents Chlorinated</b>
<b>Comp H2</b>	<b>Compressed Hydrogen Gas</b>	<b>Solv Gen</b>	<b>Solvents General</b>
<b>Comp liq</b>	<b>Compressed Liquids (Fuels and Refrigerants, NH<sub>3</sub>)</b>	<b>Sus Fert</b>	<b>Suspension Fertilizers</b>
<b>Cryo LNG</b>	<b>Cryogenic Liquids and Liquefied Natural Gas</b>	<b>Water</b>	<b>Water</b>
<b>DEF</b>	<b>Diesel Exhaust Fluid</b>		

*Note: The Typical Products listed in this table are not limiting or all-inclusive; there may be other products and product trade names, which fall into a product family. Water and a product such as stoddard solvent or mineral spirits may be used as test products in the fuels, lubricants, industrial, and food- grade liquid oils product family.*