



8010 Edgar Industrial Crescent, Red Deer, Alberta T4P 3R3 Tel: 403-347-7557 Fax: 403-346-2662

FUEL GRADE ETHANOL SPECIFICATIONS

Product Specification:

The American Society for Testing and Materials has established a standard ASTM D-4806-98, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel" for the ethanol industry. Permollex Ltd. fuel grade ethanol meets the following specifications:

Parameter	Specification
Ethanol, % v/v	92.1 min
Methanol, % v/v	0.5 max
Water content, % v/v	1.0 max
Denaturant content, % v/v	1.96 min 4.76 max
Solvent-washed gum, mg/100mL	5.0 max
Inorganic chloride content, mass ppm	40 max
Copper content, mg/kg	0.1 max
Acidity as acetic acid, mass % (mg/L)	0.0053 max (In presence of corrosion inhibitors and detergents)
pHe	6.5 to 9.0
Appearance:	Visibly free of suspended or precipitated contaminants (clear and bright)