

### Y-GRADE PRODUCT SPECIFICATIONS

Acceptable Y-Grade shall be a mixture of constituents or component products of natural gas liquids (NGLs) composed principally of ethane, propane, butane and natural gasolines, meeting the following product specifications:

CHARACTERISTIC	PRODUCT SPECIFICATIONS	TEST METHOD
Composition: Methane, maximum Aromatics, maximum Olefins, maximum	See Note 1 See Note 2 1.0 L.V. %	GPA 2177 GPA 2186 GPA 2186
Carbon Dioxide: PPM by Volume in Liquid	500 maximum	GPA 2177
Vapor Pressure: psig at 100° F	600 maximum	ASTM D-6378
Corrosiveness: Copper strip at 100° F	No. 1	ASTM D-1838
Total Sulfur: PPM by weight, maximum	150	ASTM D-2784
Hydrogen Sulfide: Pass/Fail	Pass	ASTM D-2420
Distillation: End point at 14.7 psia, maximum See Note 3	375.0° F	ASTM D-7344
Color: Saybolt Number, minimum See Note 3	+25.0	ASTM D-6045
Existing Gum: Washed Unwashed	<=1mg/100ml <=1mg/100ml	ASTM D-381
Dryness: Free Water at 34° F	None	Visual Inspection
Product Temperature: Minimum Maximum	60° F 100° F	

**Note 1:** Methane not to exceed either 0.5 L.V. % of the total stream or 1.5 L.V. % of the ethane content. For accounting purposes a maximum of 1.5 L.V. % methane in the ethane will be considered ethane. Any excess above this specification shall not be accounted for.

**Note 2:** Aromatics not to exceed either 1.0 wt. % in the total stream or 10 L.V. % in contained natural gasoline

**Note 3:** Distillation and Color to be run on that portion of the mixture having a boiling point of 70° F and above at atmospheric pressure.

**General Contaminants Note:** The Y-Grade shall be commercially free from sand, dust, gums, gum-producing substances, oil, glycol, inhibitors, amine, caustics, chlorides, oxygenates, heavy metals, any other contaminants that make it unfit for its commonly used applications and any compound added to the product to enhance the ability to meet these specifications.

**Abbreviations:** ASTM = American Society for Testing and Materials, Standard Test Procedures; ° F = Degrees Fahrenheit; GPA = Gas Processors Association; L.V. % = liquid volume percent; mg = milligrams; ml = milliliters; PPM = Parts per Million; psia = pounds per square inch absolute; wt. % = percentage by weight.

*The aforementioned specifications may be modified from time to time in the sole discretion of the issuing entity.*