

AZ2 Grade Arizona Summer Cleaner Burning Gasoline (CBG)

| <u>Product Property</u> | <u>ASTM Test</u> | <u>Test Results</u> | |
|---|------------------|---------------------|----------------|
| | <u>Method</u> | <u>Minimum</u> | <u>Maximum</u> |
| Octane RON | D 2699 | Report | |
| MON | D 2700 | Report | |
| (R+M)/2 | | 91.0 | |
| Oxygen Content (wt%) ^{1/} | D 4815 | | 0.05 |
| RVP (psi) (ASTM) | D 5191 | 6.4 | 7.0 |
| Benzene (vol%) | D 3606 | | 1.30 |
| Aromatics (vol%) | D 5769 | | 50 |
| Olefins (vol%) | D 1319 | | 25 |
| Color | | | Undyed |
| Corrosion (Cu) 3 hrs @122°F (50°C) | D 130 | | 1 |
| Corrosion (Ag) 3 hrs @122°F (50°C) | D 4814 | | 1 |
| Doctor test ^{2/} | D 4952 | | Negative |
| or Mercaptan Sulfur (wt.%) | D 3227 | | 0.002 |
| Existent Gum (mg/100 ml) | D 381 | | 4 |
| Gravity°API @ 60°F | D 287 | Report | |
| Oxidation stability (minutes) | D 525 | 240 | |
| Phosphorous, (gms/gal) | D 3231 | | 0.003 |
| Lead, (gms/gal) | D 5059 | | 0.010 |
| Sulfur (ppm) | D 5453 | | 80 |
| NACE | TM0172 | | B+ |
| Haze ^{3/} | D 4176 | | 2 |
| Odor | Olfactory | | Non-Offensive |
| <u>Emissions Performance Reductions (%)</u> | | | |
| VOC Reduction (%) | | | -27.5 |
| NOx Reduction (%) | | | -5.5 |
| <u>Volatility</u> | | | |
| Distillation, (°F) | D 86 | | |
| E 200(vol%) | | 30 | 70 |
| E 300(vol%) | | 70 | 100 |
| End pt | | | 430 |
| Vapor/Liquid Ratio (V/L °F@ 20) | D 2533 | 140 | |
| Drivability Index (DI) | D 4814 | | 1250 |

1/ Total oxygen levels shall not exceed de minimus levels. The use of non-hydrocarbon blending components such as MTBE is prohibited.

2/ Mercaptan Sulfur determination is waived if the result of the Doctor Test ASTM D4952 is negative.

3/ Product must be tested at 55°F or tank temperature whichever is lower.

- Product must be certified using current Arizona CBG regulations from a state of Arizona registered supplier.
- In addition to the above a LPP Product Transfer Document for Arizona CBG must be filled out and provided to Longhorn Pipe Line Quality Control.
- All gasoline must meet latest revision of ASTM D 4814.
- Corrosion inhibitors, gum inhibitors and metal deactivators must be approved by Longhorn Pipeline

AZ2 Grade Arizona Summer Cleaner Burning Gasoline (CBG) (continued)

- No additives or corrosion inhibitors containing phosphorus may be used in this gasoline.
- The shipment of fuels containing Port Fuel Injector (PFI) and intake valve detergent additives is prohibited. This is a base gasoline, not for sale to the ultimate consumer
- Any gasoline exhibiting an offensive and/or containing more than 0.50wt % dicyclopentadiene will not be accepted for shipment.