PHARMCO by Greenfield Global

# PRODUCT SPECIFICATIONS SHEET

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|---|---|
| Product Name | Ethyl Alcohol 100% (200 Proof) Absolute Grain |
| Grade | USP/FCC Grade |
| Catalog # | 111USP/FCC200 |

| TEST | MONO-GRAPH | SPECIFICATION | TYPICAL RESULT | UNITS |
|---|---|---|---|---|
| Assay (by specific gravity@25°C) | FCC | NLT 94.9% | 99.98 | % |
| Specific Gravity | FCC | Not more than 0.8161 @ 15.56°C | 0.7937 | N/A |
| Specific Gravity | FCC | Not more than 0.8096 @ 25.0°C | 0.7872 | N/A |
| Assay (by GC, corrected for water) | Internal | NLT 99.9% | 99.97 | % |
| Proof | 27CFR 30.23 | Lot Analysis | 200.0 | N/A |
| Assay (by specific gravity@15.56°C) | USP | NLT 99.5% | 99.98 | % |
| Specific Gravity | USP | NMT 0.7962 @ 15.56°C | 0.7937 | N/A |
| Ag (Silver) | USP<232> | Lot Analysis | 0.00 | ppm |
| As (Arsenic) | USP<232> | Lot Analysis | 0.00 | ppm |
| Au (Gold) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ba (Barium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cd (Cadmium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Co (Cobalt) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cr (Chromium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Cu (Copper) | USP<232> | Lot Analysis | 0.00 | ppm |
| Hg (Mercury) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ir (Iridium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Li (Lithium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Mo (Molybdenum) | USP<232> | Lot Analysis | 0.00 | ppm |

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|---|---|---|---|---|
| Ni (Nickel) | USP<232> | Lot Analysis | 0.00 | ppm |
| Os (Osmium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Pb (Lead) | USP<232> | Lot Analysis | 0.00 | ppm |
| Pd (Palladium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Pt (Platinum) | USP<232> | Lot Analysis | 0.00 | ppm |
| Rh (Rhodium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Ru (Ruthenium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Sb (Antimony) | USP<232> | Lot Analysis | 0.00 | ppm |
| Se (Selenium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Sn (Tin) | USP<232> | Lot Analysis | 0.00 | ppm |
| Tl (Thallium) | USP<232> | Lot Analysis | 0.00 | ppm |
| V (Vanadium) | USP<232> | Lot Analysis | 0.00 | ppm |
| Acidity (as acetic acid) | FCC | NMT 0.5 mL of 0.02N sodium hydroxide is required to restore the pink color. (NMT 0.003%) | Pass | N/A |
| Alkalinity (as NH3) | FCC | NMT 0.2 mL of 0.02N sulfuric acid is required to restore the red color. (NMT 3 mg/kg) | Pass | N/A |
| Organic Impurities - Fusel Oil | FCC | No foreign odor is perceptible when the last traces of alcohol leave the paper. | Pass | N/A |
| Identification by Infrared Absorption | FCC | Conforms to IR Spectra | Pass | N/A |
| Organic Impurities - Ketones, Isopropyl Alcohol | FCC | No precipitate forms within 3 min. | Pass | N/A |
| Inorganic Impurities - Lead | FCC | NMT 0.5 mg/kg | LT 0.5 mg/kg | N/A |
| Organic Impurities - Methanol | FCC | 200 ppm max. | 1 | ppm |
| Nonvolatile Residue | FCC | NMT 0.003% | 0.000 | % |

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| TEST | MONO-GRAPH | SPECIFICATION | TYPICAL RESULT | UNITS |
|---|---|---|---|---|
| Organic Impurities - Any other single impurity | FCC | 1000 ppm max. | 1 | ppm |
| Solubility in Water | FCC | No haze or turbidity develops | Pass | N/A |
| Organic Impurities - Substances Darkened by Sulfuric Acid | FCC | The mixture is colorless or has no more color than either the acid or the sample before mixing. | Pass | N/A |
| Organic Impurities - Substances Reducing Permanganate | FCC | The pink color does not entirely disappear. | Pass | N/A |
| Organic Impurities - Sum of all impurities | FCC | 5000 ppm max. | 0 | ppm |
| Acidity or Alkalinity | USP | The solution is pink (30µL/L, expressed as acetic acid) | Pass | N/A |
| Clarity of Solution | USP | Sample solution A and Sample solution B show the same clarity as that of water, or their opalescence is not more pronounced than that of the Standard suspension A. | Pass | N/A |
| Color of Solution | USP | The Sample solution has the appearance of water or is not more intensely colored than the Standard solution | Pass | N/A |
| Identification Test A (Specific Gravity) | USP | It meets the requirements of the test for specific gravity | Pass | N/A |
| Identification Test B (Infrared Spectroscopy) | USP | Conforms to IR Spectra | Pass | N/A |
| Identification Test C (Limit of Methanol) | USP | NMT 200 µL/L (200ppm) of Methanol | Pass | N/A |
| Limit of Nonvolatile Residue | USP | NMT 2.5 mg | 0.0 | mg |
| Organic Impurities - Acetaldehyde and Acetal | USP | NMT 10µL/L, expressed as acetaldehyde | 0 | µL/L |
| Organic Impurities - Benzene | USP | NMT 2µL/L | 0 | µL/L |
| Organic Impurities - Methanol | USP | NMT 200µL/L | 1 | µL/L |

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|---|---|---|---|---|
| Organic Impurities - Sum of all other impurities | USP | NMT 300µL/L | 1 | µL/L |
| UV Absorbance | USP | NMT 0.40 at 240 nm | 0.29 | N/A |
| UV Absorbance | USP | NMT 0.30 between 250 and 260 nm | 0.12 | N/A |
| UV Absorbance | USP | NMT 0.10 between 270 and 340 nm | 0.02 | N/A |
| UV Absorbance | USP | The spectrum shows a steadily descending curve with no observable peaks or shoulders | Pass | N/A |

This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.