



## PRODUCT SPECIFICATIONS SHEET

Product Name Ethyl Alcohol 95% (190 Proof) Grain  
 Grade ACS/HPLC-UV Grade  
 Catalog # 111HPLC190

| TEST                                 | MONO-GRAPH  | SPECIFICATION                   | TYPICAL RESULT | UNITS |
|--------------------------------------|-------------|---------------------------------|----------------|-------|
| Assay (by GC, corrected for water)   | ACS         | NLT 95.0%                       | 95.01          | %     |
| UV Absorbance                        | ACS         | NMT 0.40 at 210 nm              | 0.27           | N/A   |
| UV Absorbance                        | ACS         | NMT 0.25 at 220 nm              | 0.15           | N/A   |
| UV Absorbance                        | ACS         | NMT 0.15 at 230 nm              | 0.07           | N/A   |
| UV Absorbance                        | ACS         | NMT 0.05 at 240 nm              | 0.03           | N/A   |
| UV Absorbance                        | ACS         | NMT 0.01 between 270 and 400 nm | 0.00           | N/A   |
| Proof                                | 27CFR 30.23 | Lot Analysis                    | 190.0          | N/A   |
| Assay (by specific gravity@15.56°C)  | USP         | 94.9% - 96.0% (by volume)       | 95.01          | %     |
| Specific Gravity                     | USP         | 0.812 - 0.816 @ 15.56°C         | 0.8158         | N/A   |
| Acetone/Isopropyl Alcohol            | ACS         | To Pass Test                    | Pass           | N/A   |
| Color (APHA)                         | ACS         | 10 max                          | 1              | N/A   |
| Methanol                             | ACS         | 0.1% max                        | Pass           | N/A   |
| Residue after Evaporation            | ACS         | 0.001% , max                    | 0.000          | %     |
| Solubility in Water                  | ACS         | To Pass Test                    | Pass           | N/A   |
| Substances Darkened by Sulfuric Acid | ACS         | To Pass Test                    | Pass           | N/A   |
| Substances Reducing Permanganate     | ACS         | To Pass Test                    | Pass           | N/A   |
| Titration Acid                       | ACS         | 0.0005 meq/g max.               | 0.0001         | meq/g |
| Titration Base                       | ACS         | 0.0002 meq/g max.               | 0.0001         | meq/g |



## PRODUCT SPECIFICATIONS SHEET

| TEST   | MONO-GRAPH | SPECIFICATION   | TYPICAL RESULT | UNITS     |
|--|------------|---|----------------|-----------|
| Acidity or Alkalinity                            | USP        | The solution is pink (30 $\mu$ L/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 $\mu$ L/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 10 $\mu$ L/L, expressed as acetaldehyde   | 0              | $\mu$ L/L |
| Organic Impurities - Benzene                     | USP        | NMT 2 $\mu$ L/L   | 0              | $\mu$ L/L |
| Organic Impurities - Methanol                    | USP        | NMT 200 $\mu$ L/L   | 2              | $\mu$ L/L |
| Organic Impurities - Sum of all other impurities | USP        | NMT 300 $\mu$ L/L   | 3              | $\mu$ L/L |
| UV Absorbance                                    | USP        | NMT 0.40 at 240 nm  | 0.18           | N/A       |
| UV Absorbance                                    | USP        | NMT 0.30 between 250 and 260 nm   | 0.08           | 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       |



## **PRODUCT SPECIFICATIONS SHEET**

This product is for further commercial manufacturing, laboratory, or research use, and may be used as 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.