

### CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by INTERTEK SAI Global  
Certificate Number. QMS42099

Catalogue Number	E/0650
Lot Number	2544946
Description	Ethanol, absolute AR For analysis
CAS Number	64-17-5
Quality Test/Release Date	14/Jul/2025
Expiry Phrase	Use within 5 yrs of opening
Country of Origin	United Kingdom
Declaration of Origin	Synthetic
BSE/TSE	Not directly derived from or manufactured with any animal byproducts in any way (Including but not limited to fermentation or nutrient broth, catalysts, enzymes).

Result Name	Units	Specifications	Test Value
Acetone	%	<= 0.001	None Detected
Acidity acetic acid	%	<= 0.002	0.00018
Acidity/alkalinity (meq/g)	meq/g	<= 0.0001	0.00003
Aldehyde	%	<= 0.001	<0.001
Aldehyde (ppm)	ppm	<= 10	<10
Assay (GC)	%	>= 99.8	100.00
Benzene	%	<= 0.0002	None Detected
Benzene (ppm)	ppm	<= 2	None Detected
Calcium (Ca)	ppm	<= 0.5	<0.02
Chemical form		Mobile liquid	Mobile liquid
Colour	APHA	<= 10	<5
Copper (Cu)	ppm	<= 0.05	<0.01
Furfuraldehyde	%	<= 0.001	None Detected
Iron (Fe)	ppm	<= 0.2	<0.02
Lead (Pb)	ppm	<= 0.05	<0.005
Magnesium (Mg)	ppm	<= 0.05	<0.01
Methanol	%	<= 0.002	None Detected
Other organics	%	<= 0.02	None Detected
Potassium (K)	ppm	<= 0.5	<0.02
Propan-2-ol	%	<= 0.003	0.00074
Relative density		>= 0.79 and <= 0.793	0.7909
Residue after evaporation (ppm)	ppm	<= 10	0.5
Sodium (Na)	ppm	<= 2	<0.1
Substances darkened by H2SO4 (APHA)	APHA	<= 10	<5
Substances reducing KMnO4	%	<= 0.0005	<0.0005
Total phosphorus (P)	ppm	<= 0.5	<0.02
Total silicon (Si)	ppm	<= 0.05	<0.02
Total sulfur (S)	ppm	<= 1	<0.05
Visual colour		Clear colourless	Clear colourless
Water	%	<= 0.2	0.03
Wt/ml at 20C	g	>= 0.789 and <= 0.791	0.7895
Zinc (Zn)	ppm	<= 0.2	<0.01

**Additional Information** Meets the current analytical specification of BP and Ph. Eur. This Certificate of Analysis also applies to E/0650DF (Duty Free)

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.

*A. Ganatra*

Ashok Ganatra  
Supervisor, QC

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research use or further manufacturing. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.