

# CERTIFICATE OF ANALYSIS

## ETHANOL 99.9% ABSOLUTE



Ethanol.sa

FULLY DENATURED

<b>PRODUCT</b>	ETHANOL 99.9%				
<b>PRODUCT DESCRIPTION</b>	ETHYL ALCOHOL OF 99.9% - FULLY DENATURED ETHANOL				
<b>MANUFACTURE DATE</b>	Aug 2020				
<b>EXPIRY DATE</b>	Aug 2021				
<b>BATCH NUMBER</b>	20/044				
<b>UN -NO : 1170</b>					
<b>CAS NO : 64-17-5</b>					
<b>CLASS 3</b>					
<b>SG 0.789</b>					
<b>C2H60</b>					
<b>PACKING GROUP II , F1</b>					
				<b>TEST METHOD</b>	
				<b>ASTM</b>	<b>Other</b>
<b>Appearance</b>		Clear and Bright	Pass	E2680	
<b>Colour</b>	Hazen	2.5 Max	<2.5	D1209	
<b>Water</b>	mass %	0.15 Max	<0.08	D1364	
<b>Ethanol (Dry Basis)</b>	volume %	99.99 min	99.99		GC
<b>Acidity as CH3COOH</b>	mg/kg	30 max	5	D1613	
<b>Carbonyls as acetaldehyde</b>	mg/kg	20 max	1		UOP 624
<b>Esters as ethyl acetate</b>	mg/kg	50 max	25		BS6392 PART 8
<b>Acetaldehyde</b>	mg/kg	10 max	4		BS6392 PART 8
<b>Methanol</b>	mg/kg	20 max	<3		GC
<b>Higher alcohols as iso-butanol</b>	mg/kg	10 max	<3		KOMAR OWSKI

STANDARD AIR DENSITY				
Property	Units	Correction Factor	Value	Temperature
Standard density in air	kg/l	0.000882	0.7883	20.0C

### PRODUCT SPECIFICATION ABOVE BEFORE DENATURING

DENATURANTS		
<b>Denatonium Benzoate</b>	%	0.001% (10 ppm)
<b>Butyl Alcohol</b>	%	0.01% (100 ppm)
<b>Effective Assay</b>		<b>99.9% (Min)</b>