



Unilong Industry Co., Ltd

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CERTIFICATE OF ANALYSIS

Product name:	2,3-butanediol	Batch no.	J120220204
Cas	513-85-9	Mf date	Feb.04,2022
Packing	200kgs/drum	Analysis date	Feb.04,2022
Quantity	5mt	Expiry date	Feb.03,2024
Item	Standard	Result	
Appearance	Colorless to light yellow transparent liquid	Qualified	
Water content (%)	≤ 1	0.58	
Heavy metal content (%)	≤ 0.001	0.0001	
Arsenic content (%)	≤ 0.0001	0.00001	
2,3-butanediol purity(%)	≥ 99	99.8288	
Natural degree test(C14)%	$\geq 98 \pm 3$	99	
Meso content of 2,3-butanediol(%)	≥ 88	92.68	
Refractive index (nD ²⁰)	1.435-1.440	1.4376	
Relative density	1.001-1.005 (25/25°C)	1.0028 (25/25°C)	
Boiling point	179-182°C	179-182°C	
Solubility	Soluble in water, ethanol and glycerol	Qualified	
Conclusion	Conforms to ffc-4, also confirms to usp-28, bp-2003		

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