



CERTIFICATE OF ANALYSIS

DATE : October 09, 2019
PRODUCT NAME : REFINED GLYCERINE 99.5%
CUSTOMER : -

Test Result				Specification	Ref. Method
Batch number	014200919 C	015210919 C	016220919 C		
Manufacturing Date	20-09-19	21-09-19	22-09-19		
Expiry Date*	20-09-21	21-09-21	22-09-21		
Appearance of solution	Clear, Colourless	Clear, Colourless	Clear, Colourless	Clear, Colourless	USP 38
Identification test	Pass	Pass	Pass	Pass	USP 38
Glycerol content (%)	99.79	99.75	99.80	99.5 min	USP 38
Water (%)	0.20	0.21	0.16	0.5 max	AOCS Ea 8-58
Fatty Acid & Ester (as ml 0.5N NaOH)	3.06	3.31	3.19	1 max	USP 38
Chlorides (ppm)	9.0	9.0	9.0	10 max	USP 38
Colour (APHA)	8.1	8.1	8.1	10 max	AOCS Ea 9-65
Residue on ignition (%)	< 0.01	< 0.01	< 0.01	0.01 max	USP 38
Specific gravity 25/25 °C	1.2615	1.2614	1.2615	1.2606 min	AOCS Ea 7-95
Sulphates (ppm)	< 20	< 20	< 20	20 max	USP 38
Heavy metals (ppm)	< 5	< 5	< 5	5 max	USP 38
Chlorinated Compounds (ppm)	< 30	< 30	< 30	30 max	USP 38
Diethylene Glycol (%)	Not detected	Not detected	Not detected	0.1 max	USP 38
Ethylene Glycol (%)	Not detected	Not detected	Not detected	0.1 max	USP 38
Individual Impurity (%)	< 0.1	< 0.1	< 0.1	0.1 max	USP 38
Total Impurities (%)	< 1	< 1	< 1	1 max	USP 38

Test Result			Specification	Ref. Method
Batch number	021250919 C	022250919 C		
Manufacturing Date	25-09-19	25-09-19		
Expiry Date*	25-09-21	25-09-21		
Appearance of solution	Clear, Colourless	Clear, Colourless	Clear, Colourless	USP 38
Identification test	Pass	Pass	Pass	USP 38
Glycerol content (%)	99.76	99.73	99.5 min	USP 38
Water (%)	0.16	0.16	0.5 max	AOCS Ea 8-58
Fatty Acid & Ester (as ml 0.5N NaOH)	3.43	3.56	1 max	USP 38
Chlorides (ppm)	9.0	9.7	10 max	USP 38
Colour (APHA)	8.1	8.1	10 max	AOCS Ea 9-65
Residue on ignition (%)	< 0.01	< 0.01	0.01 max	USP 38
Specific gravity 25/25 °C	1.2614	1.2613	1.2606 min	AOCS Ea 7-95
Sulphates (ppm)	< 20	< 20	20 max	USP 38
Heavy metals (ppm)	< 5	< 5	5 max	USP 38
Chlorinated Compounds (ppm)	< 30	< 30	30 max	USP 38
Diethylene Glycol (%)	Not detected	Not detected	0.1 max	USP 38
Ethylene Glycol (%)	Not detected	Not detected	0.1 max	USP 38
Individual Impurity (%)	< 0.1	< 0.1	0.1 max	USP 38
Total Impurities (%)	< 1	< 1	1 max	USP 38

* Under optimum storage condition. Optimum means sheltered warehouse and away from direct sunlight or heat.

Issued by Manufacturer
PT. Cisadane Raya Chemicals



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QC Laboratory Dept.