



CERTIFICATE OF ANALYSIS (COA)

REPORT OF PHYSICAL AND CHEMICAL ANALYSIS / QUALITY CERTIFICATE
TO THE BEST OF OUR KNOWLEDGE, WE CERTIFY THE INFORMATION IS TRUE AND CORRECT.

PRODUCT:	REFINED GLYCERINE		
CERTIFICATE DATE:		DATE OF PRODUCTION:	
CERTIFICATE N°:		EXPIRY DATE:	
BATCH N°:		DATE OF COMPLETION OF TESTS:	
SHIPPED ON BOARD DATE:			
SUPPLIER:	MERIDIONAL TCS INDUSTRIA E COMERCIO DE OLEOS S/A		
COUNTRY OF ORIGIN:	BRAZIL	DOCUMENTARY CREDIT NUMBER / LC NUMBER:	NIHIL

PHYSICAL - CHEMICAL RESULTS			
PARAMETER	TEST METHOD	CONTRACT SPECIFICATIONS	RESULT
ASPECT (@25°C)	US PHARMACOPEIA USP 43	VISCOUS LIQUID, CLEAR AND COLOURLESS	VISCOUS LIQUID, CLEAR AND COLOURLESS
SMELL	IN HOUSE	CHARACTERISTIC	CHARACTERISTIC
GLYCERIN (%)	US PHARMACOPEIA USP 43	≥ 99,80	99,80
IDENTIFICATION A (I.R.)	US PHARMACOPEIA USP 43	PASS	PASS
IDENTIFICATION C (CHROMATOGRAPHY)	US PHARMACOPEIA USP 43	PASS	PASS
IMPURITIES AND RELATED SUBSTANCES (TOTAL %m/m)	US PHARMACOPEIA USP 43	≤ 1,00	≤ 1,00
ACIDITY AND ALKALINITY (mL NaOH 0,1N)	EU PH 10 th Ed.	≤ 0,20	0,08
REFRACTIVE INDEX	EU PH 10 th Ed.	1,470 - 1,475	1,473
ALDEHYDES (ppm)	EU PH 10 th Ed.	≤ 10,00	≤ 10,00
HALOGENATED COMPOUNDS (ppm)	US PHARMACOPEIA USP 43	≤ 30,00	≤ 30,00
SPECIFIC WEIGHT AT 20°C (Kg/L)	US PHARMACOPEIA USP 43	1,2590 - 1,2630	1,2614
SPECIFIC WEIGHT AT 25°C (Kg/L)	US PHARMACOPEIA USP 43	1,2550 - 1,2600	1,256
COLOR (APHA)	ASTM D1209	≤ 10,00	5,44
IGNITION RESIDUE - ASH (%m/m)	US PHARMACOPEIA USP 43	≤ 0,01	≤ 0,01
WATER (%m/m)	US PHARMACOPEIA USP 43	≤ 0,50	0,12
pH (SOL. 10% / 25°C)	POTENCIOMETRIC	5 - 8	6,51
FATTY ACIDS AND ESTERS (mL NaOH 0,5N)	US PHARMACOPEIA USP 43	≤ 1,00	0,58
CHLORIDES (ppm)	US PHARMACOPEIA USP 43	≤ 10,00	≤ 10,00
SULPHATES (ppm)	US PHARMACOPEIA USP 43	≤ 20,00	≤ 20,00
DIETHYLENE GLYCOL AND RELATED (%m/m)	US PHARMACOPEIA USP 43	≤ 0,10	≤ 0,10
ETHYLENE GLYCOL (%m/m)	US PHARMACOPEIA USP 43	≤ 0,10	≤ 0,10
HEAVY METALS (as Pb) (ppm)	US PHARMACOPEIA USP 43	≤ 5,00	≤ 5,00

