

GAS INNOVATIONS

CERTIFICATE OF ANALYSIS

SPECIALLY DENATURED ALCOHOL

FORMULA: SDA 40B 190 PROOF

(ETHANOL DENATURED WITH DENATONIUM BENZOATE)

GRAIN DERIVED ETHANOL FROM FERMENTATION

DATE SAMPLED 1-Jul-20
DATE OF ANALYSIS 1-Jul-20
PRODUCT ID B0037 70120

FORMULATION

ETHANOL (190 PROOF)	99.99	v/v%	METERED
DENATONIUM BENZOATE	<0.01	v/v%	METERED

CERTIFICATION - USP IMPURITIES - PERFORMED ON PRODUCER SITE

<u>QUALITY</u>	<u>RESULTS</u>	<u>FDA SPECIFICATION</u>	<u>UNIT</u>	<u>METHOD</u>
METHANOL	35	200 MAX	ppm	EN15721
BENZENE	NOT DETECTED	2 MAX	ppm	EN15721
ACETALDEHYDE	48	<50	ppm	EN15721
ACETAL	0	<50	ppm	EN15721
ETHANOL	94.07%	94.9-96.0%	v/v%	ASTM D4052

OTHER IMPURITIES BY GC

ACETONE	NOT DETECTED	<4400	ppm	EN15721
n-PROPANOL	239	<1000	ppm	EN15721
ETHYL ACETATE	37	<2200	ppm	EN15721
SEC-BUTANOL	0	<6200	ppm	EN15721
ISO-BUTANOL	72	<21700	ppm	EN15721
n-BUTANOL	0	<1000	ppm	EN15721
ISO-AMY ALCOHOL	7	<4100	ppm	EN15721
AMYL ALCOHOL	0	<4100	ppm	EN15721

CERTIFICATION - PERFORMED ON PRODUCER SITE

DENSITY @ 15.56 C	0.81554	0.812-0.816	g/cm ³	ASTM D4052
pHe	7.6	N/A		ASTM D6423
CLARITY	PASS			IN HOUSE
ODOR	ODORLESS			IN HOUSE

This product is intended as an Active Pharmaceutical Ingredient (API) for the manufacturing of alcohol-based hand sanitizer products during the public health emergency (COVID-19) in accordance with FDA guidelines. This product is not intended for use as an active ingredient in drug manufacturing. Appropriate/legal use of this product is the responsibility of the user

NDC# 74688-001