

Brenntag Global Marketing
Leo A Fialla
4620 Creekstone Drive
Suite 140
Durham, NC 27703
United States of America

Our Reference Number: US410-0017597
Lab Reference Number: 2019-SANF-000056
Customer Reference Number: 328418R

Customer Product Description: Caustic 50% Membrane Grade

Location: Kinder Morgan, Richmond, California, United States

Sample Representing: NAVIG8 SPARK Tank 55-1 Equal UML Composite
After Discharge

Drawn By: Intertek

Sample ID: 2019-SANF-000056-016

Date Sampled: 14-Jan-2019

Date Submitted: 15-Jan-2019

Date Tested: 16-Jan-2019

Method	Property	Result	Units	Min	Max	P/F
ITM 4201	Sodium Carbonate, Na ₂ CO ₃	0.06	Wt %		0.15	Pass
	Sodium Hydroxide, NaOH	50.59	Wt %	48.50	51.00	Pass
	Sodium Oxide, Na ₂ O	39.20	Wt %	37.50	39.50	Pass
ITM 1017	Visual Observation	Undyed		Undyed		Pass
	Visual Color	Clear		Clear		Pass
ASTM D4052	^f Specific Gravity at 15.56 °C	1.5211				
ITM 4204	Converted Pounds per Gallon	12.6682	lb/gal			
ASTM E1787	Sodium Chloride (NaCl)	0.0058	Wt %		0.01	Pass
	Sodium Sulfate (Na ₂ SO ₄)	0.0012	Wt %		0.004	Pass
	Sodium Chlorate (NaClO ₃)	0.0019	Wt %		0.002	Pass
ASTM E291	Iron Content	<0.1	mg/kg		10	Pass
FCC 11th	Sodium Identification	Pass				
Edition	Total Alkalinity	101.2	Wt %	97.0	103.0	Pass
	Arsenic	<3	mg/kg		3	Pass
	Carbonate	0.1	Wt %		3.0	Pass
	Lead	<2	mg/kg		2	Pass
	Mercury	<0.1	mg/kg		0.1	Pass
ITM 1059	Nickel	<0.500	ppm Wt		0.5	Pass

Material conforms to the requirements on above relevant point(s) of testing

The results reported on this sample meet the individual requirements contained in Food Codex Version 11

^f - Denotes analysis results which are ISO/IEC 17025 accredited by ANSI-ASQ National Accreditation Board

Results are only representative of the sample tested. All tests have been performed using the latest version unless otherwise indicated. This report shall not be reproduced except in full without written approval of Intertek. Report is subject to our standard Terms and Conditions which can be obtained at our website : <http://www.intertek.com/terms>

Signed By:

Haley Terry, Assistant Laboratory Manager

Date:

1/16/2019

Certificate of Analysis

Sodium Hydroxide 20%

Date: 11/01/2018

Lot No.: SG-471063

Tests

Appearance:

Specific Gravity @ 20°C:

% NaOH:

Results

Clear Colorless Liquid

1.223

20.05

Approved By: Nader G. L. Louca
Nader Louca
Quality Control Chemist



Brenntag Pacific, Inc.
2334 W. Directors Row
Salt Lake City, UT 84104
Phone: 801-975-1770
Fax: 801-975-7450

CERTIFICATE OF ANALYSIS

This Certificate of Analysis reflects the testing performed by a Brenntag Lab Tech of the below referenced product.

<i>Product Name:</i>	Sodium Hydroxide 25%	<i>Brenntag Product Number:</i>	
<i>Lot Number:</i>	SL-484690	<i>Manufacture Date:</i>	03/25/19

<u>Analysis</u>	<u>Specification</u>	<u>Result</u>
Appearance	Clear Colorless Liquid	Pass
Specific Gravity	1.267 – 1.289	1.2832
NaOH %	24.0 – 26.0%	25.4%

Produced Electronically

Lab Technician: Derick Bevilhymmer

Date: 03/25/19

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Certificate of Analysis

Sodium Hydroxide 30%

<u>Tests</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Clear, colorless to nearly colorless liquid	Pass
Assay as wt-% NaOH	29.0 – 31.0%	30.00 %

Date: 3/25/19

Product Number: 279149

Lot Number: FR-484804-032519

QC: 

Lorena Herrera, Chemist

Brenntag Pacific Inc.,

175 N Hughes Ave
Fresno, CA 93706

Phone: (559) 485-4150
Fax: (559) 485-0605

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Certificate of Analysis

Sodium Hydroxide 50%

Date of Manufacture: 01/19/19

Sample Date: 03/26/19

Lot: BGM-545126

<u>Tests</u>	<u>Specifications</u>	<u>Results</u>
Sodium Hydroxide %	48.50 – 51.00 %	50.59%
Appearance	Clear, to slightly hazy	Pass

QC:

Allison Hernandez, Chemist



CERTIFIED
NSF/ANSI 60

Maximum Use for Potable Water
100 mg/L

Brenntag Pacific Inc.,

175 N Hughes Ave
Fresno, CA 93706

Phone: (559) 485-4150
Fax: (559) 485-0605

CERTIFICATE OF ANALYSIS



Liquid Caustic Soda, 50%

Product Grade: **Membrane**
Tank Number: **55-1**
Location: **Richmond, CA**

ANALYSIS	RESULT	UNIT	SPEC LIMITS	METHOD
SODIUM HYDROXIDE (NaOH)	50.59	Wt %	48.5 - 51.0	ITM 4201
SODIUM OXIDE (Na ₂ O)	39.20	Wt %	37.59 - 39.52	ITM 4201
SODIUM CHLORIDE (NaCl)	58	PPM	100 Max	ASTM E1787
SODIUM CARBONATE (Na ₂ CO ₃)	0.06	Wt %	0.15 Max	ITM 4201
SODIUM CHLORATE (NaClO ₃)	19	PPM	-	ASTM E1787
SODIUM SULFATE (Na ₂ SO ₄)	12	PPM	80 Max	ASTM E1787
IRON (Fe)	<1	PPM	5.0 Max	ASTM E291
NICKEL (Ni)	<0.5	PPM	0.5 MAX	ICP
MERCURY (Hg)	<0.1	PPM	0.1 MAX	FCC
COLOR (DESCRIPTION)	Clear			ITM 1017
SPECIFIC GRAVITY (@ 60 °F)	1.5211			ASTM D4052

PRODUCT NUMBER 575222
LOT NUMBER 328418
ANALYSIS PERFORMED BY Intertek
EFFECTIVE DATE 1/19/2019

NOTE: This product meets all provisions of Food Chemicals Codex, Latest Edition (FCC)
Certified to NSF/ANSI Standard 60, MUL 100mg/L

Leo Fialla



Brenntag Global Marketing, LLC
4620 Creekstone Drive, Suite 140
Durham, NC 27703 (USA)
T +1 919-474-3400
F +1 919-472-0409

