



# Standard Specification for Liquid Caustic Soda (Sodium Hydroxide Solution)<sup>1</sup>

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*This standard has been approved for use by agencies of the Department of Defense.*

## 1. Scope

1.1 This specification covers regular-grade and rayon-grade liquid caustic soda (sodium hydroxide solution).

## 2. Referenced Documents

### 2.1 ASTM Standards:

E 291 Test Methods for Chemical Analysis of Caustic Soda and Caustic Potash (Sodium Hydroxide and Potassium Hydroxide)<sup>2</sup>

E 300 Practice for Sampling Industrial Chemicals<sup>2</sup>

### 2.2 Other Documents:

49 CFR 100 to 199 Department of Transportation Hazardous Materials Regulations<sup>3</sup>

PPP-C-2020 Federal Specification, Chemicals, Liquid, Dry, and Paste: Packaging of<sup>4</sup>

## 3. Classification

3.1 *Type A*—Regular-grade liquid caustic soda.

3.2 *Type B*—Rayon-grade liquid caustic soda.

## 4. Chemical Requirements

4.1 Liquid caustic soda shall conform to the following chemical requirements:

	Type A	Type B
Total alkalinity, as Na <sub>2</sub> O, % by weight	37.6 to 40.4	37.6 to 40.3
Total alkalinity as NaOH, % by weight	48.5 to 52.1	48.5 to 52.0
Na <sub>2</sub> CO <sub>3</sub> , % by weight	0.2 max	0.2 max
NaCl, % by weight	1.3 max	0.1 max
Fe, ppm	13 max	6 max

## 5. Sampling

5.1 Sample liquid caustic soda in accordance with the procedure for simple liquids of Practice E 300, using the appropriate techniques and containers described in Section 7, Sampling, of Test Methods E 291.

## 6. Test Methods

6.1 Analyze liquid caustic soda in accordance with the applicable sections of Test Methods E 291.

## 7. Packaging and Labeling

7.1 Industrial and commercial quantities shall be packaged and labeled in accordance with DOT regulations as found in 49 CFR 100 to 199 and state and local regulations.

7.2 When specified, Department of Defense procurements shall be packaged and labeled in accordance with the applicable paragraphs of Federal Specification PPP-C-2020.

## 8. Keywords

8.1 caustic soda; liquid; sodium hydroxide; solution

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 15.05.

<sup>3</sup> The Code of Federal Regulations may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

<sup>4</sup> Single copies of Federal Specifications required for bidding purposes are available from General Services Administration, Specification Unit, WFSIS, 7th and D St., SW, Washington, DC 20406, or from General Services Administration Business Service Centers in Boston, MA; New York, NY; Philadelphia, PA; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.

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