

LIQUID CAUSTIC SODA (Sodium Hydroxide)

Diaphragm and Membrane Grades

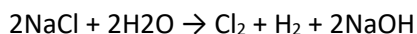
CAS Number:	1310-73-2
Synonyms:	Sodium Hydroxide, Caustic Soda, Caustic, Lye
Chemical Formula:	NaOH
Molecular Weight:	40.0
Description:	Caustic soda solutions are colorless and strongly alkaline. They are not combustible and do not support combustion.

Product Overview

Liquid caustic soda is an essential ingredient in many industrial and commercial applications. Westlake Corporation is a global producer of liquid caustic soda with manufacturing operations in North America, Germany and Taiwan. This summary is focused on product manufactured in North America, including six plants in the United States (Calvert City, Kentucky; Geismar, Lake Charles and Plaquemine, Louisiana; Natrium, West Virginia; and Longview, Washington), one in Canada (Beauharnois, Quebec), and a network of bulk terminals throughout North America offering caustic soda solutions at 20%, 25%, 32%, 50% and 73% in water.

Production

Westlake manufactures caustic soda along with chlorine via the chlor-alkali electrolysis process. Electrolysis is an electrochemical reaction using direct current to drive the decomposition reaction of an aqueous solution of sodium chloride (also called brine) into caustic soda, chlorine and hydrogen gas.



Electrolytic cell technology and design affect the caustic soda product characteristics. In a diaphragm cell, a permeable diaphragm provides a separation between the anode side of the cell where chlorine is produced and the cathode side of the cell where caustic soda and hydrogen are produced. Although there is flow through the diaphragm, the diaphragm separates the chlorine containing anolyte solution and the caustic soda containing catholyte solution, preventing mixing and reaction of the product components. The resulting caustic soda solution from the cell is 10-12% and contains sodium chloride, or salt, which has been transported through the diaphragm. This solution is then concentrated by evaporation or diluted to the final product strength.

The membrane cell differs from the diaphragm cell in that the solutions surrounding each electrode are separated by a semi-permeable membrane that selectively allows only the migration of sodium ions from the anode to the cathode chamber. Membrane cells produce 32% caustic soda. Since the chloride ion generally stays in the anode compartment of the cell, the resulting caustic soda product has substantially less sodium chloride in the product solution than that produced in diaphragm cells. The 32% caustic soda produced from the cells is then concentrated through evaporation or diluted to the final product strength.

Uses

Westlake's Liquid Caustic Soda has a wide variety of applications largely based on its ability as a strong alkali to react with many substances. It is a stronger base and faster reactant than many alkalis. Caustic soda is more stable in water than solid caustic soda and can be economically stored and transported in liquid form.

The primary uses for liquid caustic soda are in pulp and paper manufacturing, alumina production, de-inking of waste paper, water treatment, and general chemistry. Liquid caustic soda is a basic feedstock in the manufacture of a wide range of chemicals. It is used as an intermediate and a reactant in processes that produce solvents, plastics, synthetic

fibers, bleach, adhesives, coatings, herbicides, dyes, inks, and pharmaceuticals such as aspirin. It is also used in soap and detergent, oil and gas, and textile industries as well as to neutralize acidic waste streams and the scrubbing of acidic components from off-gases. Downstream users are responsible for identifying and obtaining relevant and appropriate registrations and/or approvals which may be required based on the type of application and use.

Possible uses are described below:

- **Chemical Production** - The chemical industry consumes nearly 40% of the caustic soda produced as a basic reagent for a multitude of general industrial applications.
- **Pulp and Paper** - Both sulfate and sulfite pulps are purified by removing lignin compounds in the caustic extraction stages of multistage bleach plants. In some kraft mills, caustic soda is used as a makeup chemical. It is also used as the initial treatment in de-inking secondary fibers.
- **Rayon and Cellophane** - Fiber production by the viscose process requires caustic soda at two main stages. Cellulose is treated with caustic soda solution to mercerize it and form alkali cellulose, which is then dissolved in dilute caustic soda solution to form viscose prior to extruding rayon fibers and cellophane films.
- **Alumina Extraction** - Caustic soda is used to digest bauxite ore, precipitating alumina (aluminum oxide). It is also used as an etchant in the finishing and chemical milling of aluminum products.
- **Soapmaking** - Caustic soda saponifies fats into water soluble sodium soaps.
- **Textiles** - Used in scouring, bleaching, desizing, lustering and mercerizing.
- **Petroleum Production and Refining** - Caustic soda is used as an absorbent for carbon dioxide in light petroleum fractions; as an absorbent for sulfides in the purification of various fractions; and with chlorine for hypochlorite sweetening, a treatment step in the removal of various sulfur compounds.
- **Soda Ash Replacement** - Caustic soda can be used interchangeably for many applications in glass, paper, pulp, phosphates and silicates industries.
- **Renewable Fuels** - Caustic soda is used for pH adjustment and formation of in situ sodium methylate in bioethanol and biodiesel processing.

Understand and follow all content provided on Westlake's Liquid Caustic Soda Safety Data Sheet (SDS) and label prior to use. It is also strongly recommended that each individual who may come in contact with this product be given the opportunity to review this Product Stewardship Summary

Health Effects

Wear appropriate personal protective equipment when handling caustic soda. Eye contact with caustic soda causes serious eye damage including irreversible damage and blindness; repeated or prolonged exposure may cause conjunctivitis. Skin contact causes severe burns; repeated or prolonged exposure to the skin will cause dermatitis. Ingestion of caustic soda may cause irreversible damage to mucous membranes in the mouth, throat, esophagus, stomach, and gastrointestinal tract. Inhalation of caustic soda may cause corrosive burns, including irreversible damage to the respiratory tract. Repeated or prolonged exposure to corrosive materials or fumes, even at low levels, may cause acute and/or chronic respiratory irritation.

Before handling, it is important to ensure engineering controls are functional and protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding the hazards and safe use and handling of caustic soda.

Environmental Effects

Caustic soda should be kept out of lakes, streams, ponds, or other water sources as it could elevate the pH and negatively impact local wildlife. See exposure potential for more information.

Caustic soda is highly soluble in water and does not bioaccumulate.

Exposure Potential

Precautions should be taken to minimize opportunities to harm people, animals and the environment. The potential for exposure may vary depending upon site-specific conditions. When handling caustic soda, refer to the current GHS compliant SDS and label and follow all instructions and warnings throughout this summary.

Based on the expected uses for liquid caustic soda, exposure could be through:

- **Workplace exposure** - Exposure can occur in a manufacturing facility or various industrial settings. Most processes using liquid caustic soda use closed tanks and vessels. Liquid caustic soda has been used by industry for more than 100 years. Exposures most frequently occur to the skin and eyes; however, oral exposure and ingestion are possible. Good industrial hygiene practices and the use of personal protective equipment when combined with proper training and environmental, health and safety practices, will contribute to a safe work environment.
- **Environmental releases** - In the event of a spill, contain the product to prevent contaminated soil, surface water or ground water. Caustic soda can significantly increase the pH of soil and water. Facilities handling caustic soda should have a workplace spill program in place, which includes employee training and considers minor spills around loading and unloading operations and storage tanks. Many aspects of a spill control program are mandated by federal, state and local authorities. In addition, if a spill occurs, governmental reporting may be required. Refer to the SDS for instructions to contain and clean up a spill to minimize exposure.
- **Consumer exposure** - Westlake's Liquid Caustic Soda is not sold directly to consumers; however, it is an ingredient in some consumer products. Westlake cannot and does not make any representation or conclusion about consumer exposure risks associated with its customers' products. Refer to the supplier's safety documentation in the event of an exposure. Always keep chemical products out of the reach of children.

Safe Handling and Storage

The proper way to use caustic soda when making solutions or dilutions is to slowly add it to the surface of cold water while stirring to avoid a violent eruption as a result of a dangerous exothermic reaction. Do not add water to caustic soda. Avoid adding to warm or hot water as this will increase the chance of a violent eruption or an explosive reaction. Avoid contact with organic materials and concentrated acids as this may cause violent reactions.

Liquid caustic soda reacts vigorously with many organic and inorganic materials. Moreover, liquid caustic soda attacks certain metals including aluminum, magnesium, zinc, tin, chromium, brass, and uniquely bronzes that are made with zinc or tin. Additionally, zinc is used to galvanize iron and steel, so liquid caustic soda will attack galvanized iron and steel surfaces. These reactions may be dangerous as hydrogen is generated and could introduce an explosion hazard. Caustic soda can also react with various food sugars to generate hazardous carbon monoxide gas.

Note, properly treated steel drums can be used to transport this material.

The dilution of caustic soda solutions produces considerable heat and may cause boiling, spattering, or violent eruption. Workers should have proper training and experience in dilution procedures and exercise caution. Since caustic soda is shipped hot (e.g. 50% solution at 100°-180°F and 73% solution at 225°-255°F), downstream customers should be careful when unloading or repackaging and follow all applicable requirements for the safe handling and use of the material.

Liquid caustic soda becomes more viscous and harder to handle as it approaches its solidification point. Downstream customers should ensure that equipment and procedures are in place to ensure safe handling of the caustic at temperatures involved, which may include the need to heat or maintain temperature of the material.

Packaging and Shipping

Westlake ships liquid caustic soda in tank trucks, tank cars, barges, and ocean-going tankers. Shipping points vary globally by transportation mode and product grade, as described in the table below.

- **Tank cars** - Single compartment rail cars are available with nominal capacities of 50 dry short tons.
 - **Tank trucks** - Westlake ships liquid caustic soda in bulk tank trucks with a capacity of 11-16 dry short tons in the United States and from 11 to 20 dry short tons in Canada.
 - **Barges** - Westlake moves liquid caustic soda along the US river systems in 700 dry short ton capacity barges.
 - **Ocean Tanker Ships** - Westlake is also able to load oceanic tanker ships. Customizable capacities are available.
- The following table is a description of the shipping points by location and product grade. Please contact your customer service representative to customize your ideal shipping point.

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		Diaphragm Grades				Membrane Grades			
		Tank Truck	Tank Car	Barge	Ocean Tanker	Tank Truck	Tank Car	Barge	Ocean Tanker
Alabama	Guntersville					✓	✓		
Florida	Jacksonville	✓				✓			
Illinois	Lemont Channahon	✓				✓			
Indiana	New Albany					✓			
Kentucky	Calvert City					✓	✓	✓	
Louisiana	Geismar					✓	✓	✓	
	Lake Charles	✓	✓	✓	✓	✓	✓	✓	✓
	Plaquemine	✓	✓	✓	✓				
	Westwego	✓	✓	✓	✓	✓	✓	✓	✓
Missouri	St. Louis					✓			
New Jersey	Bayonne	✓							
Pennsylvania	Philadelphia	✓							
Puerto Rico	Guayanilla	✓				✓			
Quebec	Beauharnois					✓	✓		
Tennessee	Memphis	✓							
Texas	Houston					✓			
Washington	Longview					✓	✓		
West Virginia	Natrium	✓	✓	✓					
Virginia	Newport News					✓			

Fire and Explosion Hazards

Caustic soda by itself is nonflammable and nonexplosive. However, caustic soda reacts with many metals resulting in extremely flammable hydrogen gas, which can form an explosive mixture in air.

During a fire, promptly isolate the scene by removing all persons from the vicinity of the incident. No other action shall be taken without suitable training. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Physical and Chemical Properties

Properties of Liquid Caustic Soda	50%	73%
Color	Colorless	Colorless
Odor	Odorless	Odorless
Boiling Point	288°F (142°C)	372°F (189°C)
Melting Point (crystallization begins)	50 - 55°F (10 - 13°C)	140 - 144°F (60 - 62°C)
Solidification Point	41°F (5°C)	140°F (60°C)
Specific Gravity	1.53 @ 15.6°C	1.71 @ 90°C
pH at 20°C	>12.5	>12.5

North American Regulatory Information

- **CONEG Regulation/Model Toxics in Packaging Legislation** - Lead, cadmium, mercury and hexavalent chromium are not intentionally added to Westlake's Liquid Caustic Soda, and based on the formula and Westlake's experience with this product, the sum of the incidental concentration levels of these metals is not expected to exceed 100 parts per million (ppm) by weight.
- **RCRA** - If discarded or spilled, commercial grade liquid caustic soda, as well as other wastes generated during use of caustic soda or containing caustic soda may exhibit one or more hazardous waste characteristics under 40 CFR 261.24, including D002 - corrosive.
Note: Westlake provides information on U.S. hazardous waste criteria for the product as manufactured. It remains the obligation of the user to evaluate their specific waste and to manage, treat, and dispose of unused material, residues, and containers in accordance with applicable federal, state, and local requirements.
- **VOC Information** - Westlake's Liquid Caustic Soda does not contain constituents that qualify as volatile organic compounds (VOC) based on the definition in 40 CFR 51.100.
- **HAP Information** - Westlake's Liquid Caustic Soda does not contain hazardous air pollutants (HAPs) as listed in the Clean Air Act Amendments of 1990, 42 USC 7412 (b) at levels that exceed 100 ppm.
- **Ozone-Depleting Chemicals** - Westlake's Liquid Caustic Soda does not contain ozone depleting chemicals (40 CFR 82, Subpart A, Appendix F).
- **Toxic Pollutants / Priority Pollutants** - Westlake's Liquid Caustic Soda does not contain substances listed as a toxic pollutant/priority pollutant in 40 CFR 401.15 and/or 40 CFR 423 Appendix A at levels that exceed 100 ppm.
- **CERCLA Hazardous Substance** - Caustic soda appears in the List of Hazardous Substances and Reportable Quantities table (40 CFR 302.4) with a reportable quantity (RQ) of 1,000 pounds (454 Kg).
- **TSCA Information** - All of the components of Westlake's Liquid Caustic Soda are listed on the TSCA inventory as active under TSCA Section 8(b). This product is not currently subject to any rule or order under TSCA Sections 4, 5(a), 5(e), 6(a), 7, or 12(b).
- **Canada DSL/NDL Inventory** - All components of Liquid Caustic Soda are listed on the Canadian Domestic Substances List (DSL); no components are listed on the Non-Domestic Substances List.
- **California Proposition 65** - Westlake's Liquid Caustic Soda can expose users to the chemical nickel which is known to the State of California to cause cancer.
- **Washington State Children's Safe Product Act (CSPA)** - Westlake's Liquid Caustic Soda does not contain components listed under the Children's Safe Product Act (CSPA, 70.240) at levels that exceed 100 ppm.
- **U.S. Food and Drug Administration** - The chemical, caustic soda, is designated by the FDA as a food additive Generally Recognized as Safe (GRAS) when used in accordance with good manufacturing practices (21 CFR 184.1763). Not all of Westlake's manufacturing facility have a formal good manufacturing practices program in place, and it remains the responsibility of the user to ensure that liquid caustic soda purchased from Westlake is fit for their application or end use as a food additive or food processing agent. Caustic soda is also specifically

approved for use per the following FDA citations: 21 CFR 172.892 (Food Starch-Modified, modified up to 1%), 21 CFR 173.310 (Boiler Water Additive), 21 CFR 177.1600 (Polyethylene Resins, Carboxyl Modified). It is also cleared for reaction with fatty triglycerides and their fatty acid, alcohol, or dimer derivatives listed in 21 CFR 176.210 to form soaps under 21 CFR 175.105 (Adhesives), 21 CFR 176.210 (Defoaming Agents used in the manufacture of paper and paperboard), and 21 CFR 178.3120 (Animal Glue).

- **Registration of Food Facilities (FDA Bioterrorism Act of 2002 Section 305)** - The following Westlake facilities have been registered with the FDA: Beauharnois, Quebec, Canada; Calvert City, Kentucky, USA; Geismar, Louisiana, USA; Lake Charles, Louisiana, USA; Longview, Washington, USA; Plaquemine, Louisiana, USA; and Natrium, WV, USA.
- **Good Manufacturing Practices (GMP)/Hazard Analysis and Critical Control Points (HACCP)** - Westlake's Plaquemine, Louisiana and Lake Charles South, Louisiana facilities have GMP and HACCP programs in place.
- **Food Chemical Codex Monograph Requirements** - Westlake Liquid Caustic Soda is tested annually to ensure that it meets the test requirements and specifications of the Food Chemicals Codex for caustic soda solutions.

European Regulatory Information

- **RoHS 3** - Westlake's Liquid Caustic Soda has been reviewed with regard to the RoHS 3 (EU 2015/863). Based on our knowledge of this product and information on the raw material suppliers' Safety Data Sheets, this product does not contain cadmium, hexavalent chromium, lead, mercury, polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), bis (2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), or diisobutyl phthalate (DIBP) at levels greater than the tolerated maximum concentration values established by the directive.
- **Waste Electrical and Electronic Equipment Directive (WEEE)** - Westlake's Liquid Caustic Soda has been reviewed to the WEEE directive (2002/29/EU). Based on our knowledge of this product and information on the raw material suppliers' Safety Data Sheets, this product does not contain any substances at levels greater than the maximum concentration established by the directive.
- **Substances of Very High Concern (SVHC)** - Westlake's Liquid Caustic Soda does not contain SVHC's in amounts greater than 0.1% as published in accordance with Article 59(10) of the REACH Regulation as of July 2018, nor does this product contain any substances on Annex XIV (Authorisation List).
- **European Food Additive/Contact** - Caustic soda is an approved Food Additive in the European Union as listed in EU No 231/2012 with the identifier E 524.
- **Germany Federal Agency for Agriculture and Food BfR Recommendations on Food Contact Materials** - The chemicals caustic soda and sodium carbonate are approved for use in BfR Recommendation XXXVI/2: Paper and Paperboard for Baking Purposes, Section II.B- Production Aids- Precipitating, Fixing and Parchmentisation Agents. Sodium chloride is listed as approved for use in BfR Recommendation XXXVI. Paper and board for food contact, Section C. II- Special Paper refining agents- Humectants.
- **Regulation (EC) No 1223/2009 of the European Parliament and of the Council**- Westlake's Liquid Caustic Soda may contain trace amounts of nickel listed in Chapter IV, Article 14- Substances Prohibited in Cosmetic Products and Chapter IV, Article 15 - Substances classified as CMR Substances. If present at all, nickel is not expected to exceed 100 ppm.
- **EU Allergens (26 Allergens)** - Westlake's Liquid Caustic Soda does not contain substances on the EU list of 26 Fragrance Allergens.

Asia-Pacific Information

- **Australia Inventory of Chemical Substances (AICS)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the Australia Inventory of Chemical Substances.
- **China Inventory of Existing Chemical Substances (IECSC)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the China Inventory of Existing Chemical Substances.

- **Japanese Existing and New Chemicals Inventory (ENCS)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the Japanese Existing and New Chemicals Inventory.
- **Korean Existing Chemicals Inventory (KECI)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the Korean Existing Chemicals Inventory.
- **New Zealand Inventory of Chemicals (NZIoC)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the New Zealand Inventory of Chemicals.
- **Philippine Inventory of Chemicals and Chemical Substances (PICCS)** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the Philippine Inventory of Chemicals and Chemical Substances.
- **Taiwan Existing Chemical Notification List** - All components of Westlake's Liquid Caustic Soda are listed or compliant with the Taiwan Existing Chemical Notification List.

Product Certifications and Listings

- **American Water Works Association Standard** - Liquid caustic soda conforms to the chemical identity, physical composition and packaging requirements of the AWWA Standard for sodium hydroxide (caustic soda), ANSI/AWWA B501-19.
- **NSF Standard 60 Drinking Water Treatment Chemicals** - Westlake's Liquid Caustic Soda has the Health Effects listing, and each grade is certified for maximum use levels as noted on the NSF website, which can be viewed at www.nsf.org/certified/PwsChemicals.
- **NSF White Book** - The NSF International White Book Listings of USDA Authorized or NSF Registered Nonfood Compounds for this product are A2 (Cleaning Products - Soak Tank, Steam/Mechanical Cleaners), G6 (Water Treatment Products - Boiler, Steam Line Products - Food Contact All Areas), 3B (Food Processing Substances - Hog Scald Agents), 3C (Food Processing Substances - Triple Denuding, Bleaching and Neutralizing Agents), and L1 (Sewer and Drain Cleaners -General). These can be viewed on www.nsf.org/usda/psncllistings.asp.
- **USP/NF Residual Solvents** - Although only technically applicable to dry caustic soda, Westlake does not use any Class 1, Class 2 or Class 3 (or any combination thereof) residual solvents, as denoted within USP Chapter, during the manufacture of caustic soda products.
- **ISO 9001 Certification** - The following liquid caustic soda manufacturing facilities are ISO 9001 certified: Beauharnois, Quebec, Canada; Calvert City, Kentucky; Geismar, Lake Charles and Plaquemine, Louisiana; and Natrium, West Virginia.

Additional Product Information

- **Source** - Westlake's Liquid Caustic Soda is derived from a mineral source and has not been derived from plant, animal, synthetic, petroleum or fermentation sources.
Exception: Liquid Caustic Soda manufactured at Westlake's Plaquemine facility is produced using a flocking agent of which the third-party supplier cannot guarantee their agent does not contain animal derived material.
- **Allergenic Materials** - The following allergenic materials are not used in the manufacture of Westlake's Liquid Caustic Soda:

Potential Allergen	Including
Bee Products & Derivatives	Honey, pollen, propolis, royal jelly
Buckwheat Products & Derivatives	
Celery Products & Derivatives	Celery seeds
Cocoa Products & Derivatives	
Coconut Products & Derivatives	
Crustacean Products & Derivatives	Crab, crayfish, lobster, shrimp/prawn
Dairy Products & Derivatives	Cow's milk/cream, goat's milk/cream, powdered milk, butter/butter solids, butterfat, buttermilk, milk fat,

	casein, whey, curds, custard, cheese, yogurt, lactalbumin, lactoglobulin, lactose
Egg Products & Derivatives	Albumin, egg whites, egg yolks, eggnog, ova albumin, ovomucoid, powdered eggs, mayonnaise, meringue
Fish Products & Derivatives	Abalone, anchovy, bass, cod, flounder, herring, mackerel, pollock, salmon roe, sardine, tuna, whitefish
Fruit Products & Derivatives	Apple, apricot, banana, cherry, grapefruit, kiwi, orange, peach, plum, tomato
Grain Products & Derivatives	Wheat, rice, rye, oats, barley, spelt, kamut
Cinnamon Products & Derivatives	
Legume Products & Derivatives	Alfalfa, beans (green, kidney, lima, navy, wax), lentils, peas
Carob	Locust bean gum
Licorice	
Lupin Product & Derivatives	
Meat Products & Derivatives	Beef, chicken, pork
Mollusk Products & Derivatives	Abalone, clam, cuttlefish, mussel, octopus, oysters, periwinkle, Sassia scallops, snail, squid, whelk
Mushroom Products & Derivatives	Matsutake
Mustard Products & Derivatives	
Peanut Products & Derivatives	Peanut butter, peanut meal, peanut protein, peanut flour
Plant Nuts/Seeds/Oils	Safflower, canola
Potato Products & Derivatives	
Seed Products & Derivatives	Cotton, poppy, sesame, sunflower
Protein Hydrolysates, Soybean Products & Derivatives	Soy, miso, tofu, bean curd, edamame, isolated soy protein, hydrolyzed soy protein, textured soy protein, soy milk, soy sauce, soy nuts, soy flour, soy lecithin
Spices	
Sulfates/Sulfites & Derivatives	Sulfur dioxide (all facilities except Natrium)* / Sodium metabisulfites, sodium bisulfite
Tree Nut Products & Derivatives	Almonds, brazil nut, cashew, chestnut, filberts, hazelnut, hickory, macadamia, pecans, pine nuts, pistachio, queensland nut, walnuts
Yarn Products & Derivatives	

*The Natrium facility uses sulfur dioxide in their caustic soda process (used to treat cell liquor).

- **Additives/Preservatives/Flavorings** - The following are not used by Westlake facilities in the manufacture of Liquid Caustic Soda:

Adipate
Artificial Colors/Color Additives
Benzopyrene
BPA (Bisphenol A)
Caramel Color
Chloramphenicol
DEHP
Diacetyl
Diethylene Glycol

Ethylene Oxide
Free Glutamate
Gelatin
Hormones
Iodine
Jatropha Plant
Lactose
Latex
Maleic Acid

PAH
Phosphates
Phthalates
Potassium Bromate
Psyllium
Sodium Benzoate
Sorbic Acid
Starch
Sudan Red

Dioxin
Diphenylamine
DMAA
Dyes/Food Dyes

Melamine
MSG
Palm Oil
Parabens

Titanium Dioxide
4-Methylimidazole
Nonylphenol Ethoxylates
Alkylphenol Ethoxylates

- **Animal Testing** - Westlake does not test its liquid caustic soda on animals or perform animal testing in connection with its production of liquid caustic soda.
- **Bovine Spongiform Encephalopathy** - Westlake's Liquid Caustic Soda is not of animal origin and does not contribute to Transmissible Spongiform Encephalopathy (TSE)/Bovine Spongiform Encephalopathy (BSE).
- **Conflict Minerals** - Not applicable. Tantalum, tin, gold, and tungsten are not used in the production of Westlake's Liquid Caustic Soda or its raw materials.
- **Ethylene Oxide** - Ethylene Oxide is not used as a raw material or intentionally added in the manufacture of Westlake's Liquid Caustic Soda.
- **Genetically Modified Organisms (GMOs)** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain genetically modified organisms.
- **Gluten** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain gluten.
- **Halal** - Westlake's Liquid Caustic Soda is not Halal certified.
- **Irradiation Statement** - Westlake does not perform sterilization procedures on its Liquid Caustic Soda, including but not limited to, irradiation, steaming, or chemical processing for the purpose of sterilization.
- **Kosher** - Westlake's Liquid Caustic Soda is not Kosher certified.
- **Lilial** - Lilial (Butylphenyl Methylpropional) is not used as a raw material or intentionally added in the manufacture of Westlake's Liquid Caustic Soda.
- **Lylal** - Lylal (Hydroxyisohexyl 3-Cyclohexene Carboxaldehyde) is not used as a raw material or intentionally added in the manufacture of Westlake's Liquid Caustic Soda.
- **Microbiological Agents** - Microbiological agents are not used as a raw material or intentionally added in the manufacture of Westlake's Liquid Caustic Soda.
- **Microplastics** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain microplastics.
- **Mineral Oil Saturated Hydrocarbons (MOSH)** - Westlake's Liquid Caustic Soda is not derived from a petroleum source and are not manufactured with nor contain mineral oil saturated hydrocarbons (MOSH).
- **Mineral Oil Aromatic Hydrocarbons (MOAH)** - Westlake's Liquid Caustic Soda is not derived from a petroleum source and are not manufactured with nor contain mineral oil aromatic hydrocarbons (MOAH).
- **Nanomaterials** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain nanomaterials.
- **Natural Latex Rubber** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain natural latex rubber as defined in 21 CFR 801.437(b)(1).
- **Nitrosamines** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain nitrosamines.
- **Nutritional Value** - Westlake's Liquid Caustic Soda does not have any nutritional value.
- **Palm oil** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain palm oil.
- **Parabens** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain parabens.
- **Partially Hydrogenated Oils (PHOs)** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain Partially Hydrogenated Oils (PHOs).
- **Phthalates** - Westlake's Liquid Caustic Soda is not manufactured with and does not contain phthalates.
- **Source/ Origin** - Westlake's Liquid Caustic Soda is derived from a mineral source and is not derived from plant, animal, synthetic, petroleum or fermentation sources.
- **Synthetic silicone** - Synthetic silicone is not used as a raw material or intentionally added in the manufacture of Westlake's Liquid Caustic Soda.
- **Vegan** - Westlake does not use animal material in the process of manufacturing liquid caustic soda with the exception of product manufactured at Plaquemine where a supplier cannot guarantee their flocking agent does

not contain animal derived material.

Product Stewardship

Westlake Corporation is committed to supporting the safe use of its Liquid Caustic Soda by downstream users. Westlake encourages open communication with its customers regarding safety and environmental stewardship. The health and safety of our employees and communities, and the vigilant stewardship of the environment and sustainability are of utmost importance and at the forefront of everything we do.

Additional Information

For more information regarding Westlake's Liquid Caustic Soda, contact our customer service department by calling (713) 960-9111. Or in Canada, contact Westlake Corporation, 31 Industry Road, Beauharnois, Quebec, Canada J6N 0C2, 450-429-4641.

References

Westlake Corporation website: www.westlake.com

Notice

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