



Caustic Soda Solution 50% Commercial Grade

Global Chemical Inventory Compliance

This product complies with, or is listed on several Global Inventories as detailed in the following table. Y: on inventory (or not required); N: checked and one or more components are NOT on the inventory; BLANK: not assessed.

Country	Inventory	Y/N
Europe	EINECS	Y
Europe	ELINCS	-
Canada	DSL	Y
Canada	NDSL	-
United States	TSCA	Y

Country	Inventory	Y/N
Australia	AICS	Y
China	IECS	Y
Japan	ENCS	Y
Korea	KECI	Y
New Zealand	NZIoC	Y
Philippines	PICCS	Y

US FDA Food Contact Status

At the present time, this product is not guaranteed or tested against the Food and Drug Administration (FDA) Food Additive Regulations for food contact use. The product is not produced under Good Manufacturing Practice (GMP) conditions and not marketed into regulated applications. It is up to the end user to determine if the product is suitable for its intended use.

EU 10/2011 Food Contact

Caustic Soda (CAS# 25322-69-4), as supplied from our manufacturing site in Stade, complies with European Union Commission Directive (EU) 10/2011, as amended, relating to plastic materials and articles intended to come into contact with foodstuffs (also referred to as PIM).

Sodium Hydroxide (reference Number 400) is listed in the list of authorized monomers, other starting substances, macromolecules obtained from microbial fermentation, additives and polymer production aids Annex I - Table 1 with no restrictions.

We would like to draw your attention to the fact that EU Directive 10/2011, which applies to all EU Member States, establishes a limit of 10 mg/dm² to the overall migration from finished plastic articles into food.

It is the responsibility of both the manufacturers of finished food contact articles as well as the industrial food packers to make sure that these articles in their actual use are in compliance with the imposed QM, as well as the specific and overall migration requirements. Note that only the final finished food contact article can be assessed for "compliance", not the individual substances which are only authorized for use.

Please consult the Directive and its amendments for complete details.

RDS - Caustic Soda Solution 50% Commercial Grade

Animal Derived Components

Dow Caustic Soda Solution 50% is produced using common technology and inorganic raw materials. The raw material is brine (natural occurring salt water) from salt sources. The sodium hydroxide (caustic) is produced by the electrolysis process. There are no additives, animal, plant or synthetic source, used in the process or the product. Since there are no materials that are derived from animal sources, then Bovine Spongiform Encephalopathy (BSE)/Transmissible Spongiform Encephalopathy (TSE) is not a concern with this product.

Food Allergens

This product has been evaluated for the source of the raw materials used in its production. There are no raw materials, including additives, used that have their origin in peanuts, soybeans, milk, eggs, fish, shellfish, tree nuts and/or wheat or gluten. Based on this examination of the ingredients and their sources, this product is free of the specified known allergy stimulating food substances.

Materials from Genetically Modified Organisms

The specification shows that the raw materials used in the production of this product are derived from salt water or rocks. There is no material used in the processing and production of this product derived from animals or plants. Therefore, since there are no products from these sources, this product is free from possible genetically modified organisms (GMO) materials.

Kosher

For information about the Kosher status of our Caustic Soda 50% Solution products, please use the following link to our Dow Answer Center, where you can find the appropriate Kosher certificates: https://dow-answer.custhelp.com/app/answers/detail/a_id/2604/kw/kosher.

Halal

This product is manufactured using salty water from salt deposits and/or brine sources. It is the separation of chlorine and sodium hydroxide by electrical means. There are no other products involved in the process that are animal or plant origin. The product has not been formally submitted for halal certification but will meet the halal dietary laws. No animal fats, grain or fermentation products are used in the process.

REACH

For information on Dow and the European Union regulation for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), visit our website, www.reach.dow.com and consult the Material Safety Data Sheet (MSDS) of the product. In addition please also visit http://echa.europa.eu/chem_data_en.asp.



EU Directive 2011/65/EU, the Recast for EU Directive 2002/95/EC - Restriction of Hazardous Substances (RoHS)

The Article 4.1 of EU Directive 2011/65/EU, the recast for EU Directive 2002/95/EC on "restriction of the use of hazardous substances in electrical and electronic equipment" (RoHS) requires that new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE).

We do not routinely analyze this product for these substances. However, based on the following reasons, Dow does not believe that this product would contain detectable levels of mercury, cadmium, lead, hexavalent chromium, PBB or PBDE:

1. To the best of our knowledge, the raw materials used to produce this product do not contain detectable levels of these substance.
2. Dow's production process would not be expected to introduce any of these substances into this product.

Heavy Metals, EU 94/62/EC and Coalition of Northeastern Governors (CONEG)

This product conforms to the Coalition of Northeastern Governors (CONEG) and the European Directive 94/62/EC, as amended, on Packaging and Packaging Waste, Article 11. Any incidental levels of lead, cadmium, hexavalent chromium, and mercury do not exceed 100 ppm total.

ASTM F963 - Standard Consumer Safety for Toy Safety

European Standard EN 71/3 concerns the "Safety of Toys", and specifies requirements for the migration of certain elements, i.e. antimony (Sb), arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg) and selenium (Se) from toy materials and not from paints and varnishes used for toys.

The limits of element migration from toy materials are specified as follows (Quote from EN-71/3): Any toy material, except modeling clay and finger paint: Sb:60, As:25, Ba:1000, Cd:75, Cr:60, Pb:90, Hg:60, Se:500. Maximum migrated element in mg/kg toy material. Modeling clay and finger paint: Sb:60, As:25, Ba:250, Cd:50, Pb: 25, Pb:90, Hg:25, Se:500.

We do not routinely analyze our products for these elements, but all the data we have regarding heavy metal content in our products are far below these limits and are therefore not likely to contribute to concentrations in the final toy material that is under consideration in this Standard EN-71/3. In addition to this, these products are not intentionally manufactured with any chemical substances known to contain heavy metal as listed above.

Canadian Environmental Protection Act Challenge Substances

This product is not intentionally manufactured or formulated with the Batch Lists of Canadian Environmental Protection Agency (CEPA) Challenge Substances released as of the effective date of this document. However, we do not analyze for these specific substances.

(<http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/list-eng.php>)



Phthalate Esters

This product is not intentionally manufactured or formulated with the following phthalate esters; however, we do not analyze for these specific substances or compounds.

- Butyl benzyl phthalate (BBP) CAS 000085-68-7
- Diethyl hexyl phthalate (DEHP) CAS 117-81-7
- Diethyl phthalate CAS 000084-66-2
- Diisobutyl phthalate (DIBP) CAS 000084-69-5
- Di-iso-decyl phthalate (DIDP) CAS 26271-40-0
- Di-isononyl phthalate (DINP) CAS 28553-12-0
- Dimethyl phthalate CAS 131-11-3
- Di-n-butyl phthalate (DBP) CAS 000084-74-2
- Di-n-hexyl phthalate (DnHP) CAS 000084-75-3
- Di-n-octyl phthalate (DNOP) CAS 117-84-0.

Composition and Trace Analysis

For information on the components of Dow product(s) and their concentration, please refer to the Material Safety Data Sheet (MSDS) and the Sales Specification. Any hazardous constituent at and above 1% (by weight) and carcinogens recognized by IARC, NTP or OSHA at and above 0.1% will appear in the ingredients section of the MSDS for these products. In addition, consult the Hazardous Decomposition Products section of the MSDS and the Sales Specification for further information.

Dow does not routinely analyze for additional materials that are not listed in the MSDS or Sales Specification. The materials listed below are not intentionally added to this product, and therefore are not expected to be present.

Alkylphenol ethoxylates

Aluminum

Antimicrobials

Antimony

Arsenic

Barium

Beryllium

Bisphenol A

Cadmium

Chlorinated fluorocarbons (CFCs)

Chlorinated solvents

Chromium

Cobalt



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Copper
Dibenzodioxines
Dibenzofuran
Dioxin
Ethylene oxide
Flame retardants
Formaldehyde
Fungicides
Glycol ether compounds
Hydrochlorofluorocarbons (HCFCs)
Lead
Magnesium
Melamine
Mercury
Mercury
Molybdenum
Nanomaterials
Natural rubber or latex
Nickel
Nonylphenol
Nonylphenol ethoxylates
Perfluorooctane Sulfonate (PFOS) or Perfluorooctanoic Acid (PFOA)
Persistent bioaccumulative toxic chemicals (PBTC)
Pesticides
Phthalates
Polychlorinated biphenyls or terphenyls (PCB, PCT)
Polyphenyl biphenyls
Selenium
Sewage sludge
Silver
Thallium
Trichlorophenols
Zinc



Residual Volatile Organic Compounds (VOC)

With regard to Volatile Organic Compounds (VOC) content, one Environmental Protection Agency (EPA) definition of a VOC is any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate and excluding compounds which have negligible photochemical reactivity such as: ethane, methane, and also methylene chloride, perchloroethylene and acetone, which are Dow products. For other compounds, see 40 Code of Federal Regulations Section 51.100(s) and check for any recent Federal Register notices possibly exempting other negligibly reactive VOCs. Since state or local governments and some specific EPA regulations may be more restrictive than the definition above, please check these sources also.

Under this broad definition, this product is not a VOC.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

BfR Bundesinstitut für Risikobewertung Recommendation

Caustic Soda (=sodium hydroxide) is listed in BfR Recommendation XXXVI on Paper & Board in Section VIII (preservatives).

NSF Certification

The 50% commercial and membrane grade Caustic Soda Solutions supplied by The Dow Chemical Company in North America are certified by NSF International NSF/ANSI Standard 60 Drinking Water Treatment Chemicals for use as corrosion & scale control and pH adjustment at a maximum level of 100 mg/L.

These products also comply with the supplier requirements in the applicable sections of American Water Works Association Standard B501 for Sodium Hydroxide (Caustic Soda), namely, "Section 4: Requirements" and "Section 6: Delivery," as defined in the standard. Responsibility for compliance with the remaining sections of this standard lies with the end-user. It is also the responsibility of the end-user to ensure that these products are suitable for the application in question.



CMR

For information on the components of our product and their concentrations, please refer to the Material Safety Data Sheet (MSDS) and the Sales Specification. In the U.S. and Canada, carcinogens present at > 0.1% (by weight) will appear in the ingredients section of the SDS for any given product. In Canada, embryotoxic, teratogenic and reproductive toxins, mutagens, carcinogens, and respiratory tract sensitizers must also be disclosed if > 0.1%.

In the EU, the EU Safety Data Sheet Directive requires the following:

- Any component present at > 0.1% (by weight) and classified as a Category 1 or 2 CMR under Annex I to Directive 67/548/EEC (resp CMR 1a or 1b to ANNEX VI to Directive 1272/2008/EC (CLP)) will appear in the ingredients section of the MSDS.

- Any component present at > 1% and classified as a Category 3 CMR under Annex I to Directive 67/548/EEC (resp CMR 2 to ANNEX VI to Directive 1272/2008 EC (CLP)) will appear in the ingredients section of the MSDS.

Dow does not routinely analyze for additional materials that are not listed in the MSDS or Sales Specification. Caustic Soda Solution 50% products do not contain any materials classified as Carcinogenic, Mutagenic, or Toxic for Reproduction in Directive 76/768/EEC, as amended.

Residual Solvents

This product does not contain any of the International Conference on Harmonization (ICH) Listed Solvents and, therefore, will comply with the ICH Residual Solvents Guidelines.

Food Chemicals Codex

If noted on the specification, based on an assay concentration (as NaOH) of 48.5% - 51.5%, Dow Caustic Soda Solution meets the following test requirements of the Food Chemicals Codex (FCC) 6th Edition for Sodium Hydroxide Solution.

Arsenic (as As) - 1.5 mg/kg maximum

Carbonate (as Na₂CO₃) - 1.5% maximum

Lead (as Pb) - 1 mg/kg maximum

Mercury - 0.05 mg/kg maximum

IMPORTANT NOTE: Those considering the use of Dow Caustic Soda Solution in food-related applications must carefully assess this product to determine if it is suitable for the intended application. It cannot be assumed that meeting the FCC test requirements set forth immediately above makes Dow Caustic Soda Solution suitable for food uses.



EU 231/2012 (Food Additives)

If noted on the specification, based on assay (as NaOH) of 48.5 - 51.5%, Dow Caustic Soda Solution meets the following test requirements of the Official Journal of the European Communities - Commission Directive 231/2012.

Carbonate (as Na₂CO₃) - 0.25% maximum

Arsenic (as As) - 1.5 mg/kg maximum

Lead (as Pb) - 0.25 mg/kg maximum

Mercury (as Hg) - 0.5 mg/kg maximum

IMPORTANT NOTE: Those considering the use of Dow Caustic Soda Solution in food-related applications must carefully assess this product to determine if it is suitable for the intended application. It cannot be assumed that meeting the European Commission Directive test requirements set forth immediately above makes Dow Caustic Soda Solution suitable for food uses.

Product Stewardship

The Dow Chemical Company and its subsidiaries ("Dow") has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take the appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Medical Applications Policy

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted. Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

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