Caustic Soda Solution 50% Membrane 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.

<table>
<thead>
<tr>
<th>Country</th>
<th>Inventory</th>
<th>Y/N</th>
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</thead>
<tbody>
<tr>
<td>Europe</td>
<td>EINECS</td>
<td>Y</td>
</tr>
<tr>
<td>Europe</td>
<td>ELINCS</td>
<td>-</td>
</tr>
<tr>
<td>Canada</td>
<td>DSL</td>
<td>Y</td>
</tr>
<tr>
<td>Canada</td>
<td>NDSL</td>
<td>-</td>
</tr>
<tr>
<td>United States</td>
<td>TSCA</td>
<td>Y</td>
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</table>

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<tr>
<td>Australia</td>
<td>AICS</td>
<td>Y</td>
</tr>
<tr>
<td>China</td>
<td>IECS</td>
<td>Y</td>
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<tr>
<td>Japan</td>
<td>ENCS</td>
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<td>New Zealand</td>
<td>NZIoC</td>
<td>Y</td>
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<tr>
<td>Philippines</td>
<td>PICCS</td>
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</table>

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 raw materials used in the production of this product are derived from salt water or rocks. The presence of genetically modified organisms (GMO) is not expected.
**REACH**


For information on the components of our products and their concentrations, please refer to the Material Safety Data Sheets (SDSs) and the Sales Specifications. Any hazardous constituent above 1% (by weight) and carcinogens above 0.1% will appear in the ingredients section of the MSDSs for these products. In addition, consult the Hazardous Decomposition Products section of the MSDSs and the Sales Specifications for further information.

Dow does not routinely analyze for additional materials that are not listed in the SDSs or Sales Specifications. Your inquiry addressed EU Directive 2011/65/EU, the recast for EU Directive 2002/95/EC, on the restriction on the use of certain hazardous substances in electric and electronic equipment (RoHS). This directive contains restrictions on the following materials in electric and electronic equipment: lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). None of these materials are intentionally added to this product.


This statement is intended to provide information on our product so that you may assess the consequences of these directives on the electric and electronic (E&E) articles you manufacture and place on the EU market, or materials you supply to the affected industry.

EU Directive 2012/19/EU on WEEE: Selective treatment of the waste (Article 8.5 and Annex VII): Article 8.5 requires that the waste management schemes (to be) set up by the producers, individually or collectively, ensure that the waste will be selectively treated for materials and components of the E&E waste in line with the requirements of Annex VII.

None of the following substances listed in Annex VII are intentionally added or used in the manufacture of this product:

- Asbestos
- Brominated flame retardants
- Refractory ceramic fibers
- Chlorofluorocarbons (CFC)
- Hydrochlorofluorocarbons (HCFC)
- Hydrofluorocarbons (HFC)
- Hydrocarbons (HC)
- Mercury
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- Ozone depleting gases
- Polychlorinated biphenyls (PCB)
- Polychlorinated terphenyls (PCT)
- Radioactive substances

**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.


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.

Fluorotelomers, Perfluorooctanoic acid (PFOA) and Derivatives

This product is not intentionally manufactured or formulated with Fluorotelomers, Perfluorooctanoic acid (PFOA), or Perfluorooctane sulfonate (PFOS); however, we do not analyze for these specific substances or compounds.

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
Copper
Dibenzodioxines
Dibenzofuran
Dioxin
Ethylene oxide
Flame retardants
Formaldehyde
Fungicides
Glycol ether compounds
Hydrochlorofluorocarbons (HCFCs)
Lead
Magnesium
Melamine
Mercury
Molybdenum
Nanomaterials
Natural rubber or latex
Nickel
Nonylphenol
Nonylphenol ethoxylates
Perfluorooctane Sulfonate (PFOS) or Perfluorooctanoic Acid (PFOA)
Persistant 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).

**Food Contact COE Council of European Resolution**

The use of this product in food contact applications is not supported.
Conflict Minerals

This product is not intentionally manufactured or formulated with the listed conflict minerals as per Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act; however, we do not analyze for these specific substances or compounds.

- Columbite-Tantalite – refined into Tantalum (Ta) (CAS # 7440-25-7)
- Cassiterite – refined into Tin (Sn) (CAS # 7440-31-5)
- Wolframite – refined into Tungsten (W) (CAS # 7440-33-7)
- Gold (Au) (CAS # 7440-57-5)

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.
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:

a. long-term or permanent contact with internal bodily fluids or tissues. “Long-term” is contact which exceeds 72 continuous hours;

b. 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, infra-ortic balloons and control systems, and ventricular bypass-assisted devices);

c. use as a critical component in medical devices that support or sustain human life; or

d. 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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