

Eka SC Aqueous

Sodium Chlorate

Eka® SC Aqueous is a sodium chlorate water solution that is a clear, colorless to slightly yellow liquid.

CAS number
7775-09-9

Molecular weight
106.45

Molecular formula
NaClO₃

Sodium chlorate characteristics

NaClO ₃ , 60°C/140°F	39.0 - 49.9 wt%
NaClO ₃	500 - 700 g/l
Cr	≤ 8 ppm
Appearance	Light yellow liquid
Odor	Odorless
Density	1297-1408 kg/m ³
Viscosity, 35°C/95°F	1.83 cP

Notes:

Eka® SC Aqueous will begin to recrystallize if the temperature drops below 25°C (80°F).

Applications

Eka® SC (sodium chlorate) is essential to environmentally compatible paper pulp bleaching. It is the functional ingredient in the generation of chlorine dioxide, which, in turn, is the main component in ECF (Elemental Chlorine-Free) bleaching. Up to 95 percent of all sodium chlorate produced worldwide is consumed by the pulp industry. Its second most common use is by the chemical industry where it is used as a precursor in the production of sodium and ammonium perchlorate and sodium chlorite. Sodium chlorate and sodium chlorite are the common precursors to chlorine dioxide, which is used in many water treatment applications. Other common industrial applications for sodium chlorate include as an oxidant in the mining industry for the extraction of uranium and vanadium; in the automotive industry as a surface treatment for metals; it is also used in the Printed Circuit Board industry for the control and replenishment of the cupric chloride etchant. This versatile chemical is utilized in many devices that require an oxygen source (e.g. breathing apparatus).

Packaging and transport

Eka® SC Aqueous is shipped in bulk tanks. Eka® SC is classified as hazardous material and consequently transportation and packaging design must adhere to the all applicable transportation regulations. Transportation may take place by road, railway, or sea. Each mode of transport demands specific regulations with special requirements regarding packaging, vehicle and documentation.

Proper shipping name	Sodium Chlorate, aqueous solution
UN number	2428
Transportation hazard class	5.1
Packaging group	II

Safety and handling

Please refer to the current SDS (Safety Data Sheet) for preventive protection and first aid response. Eka® SC Aqueous is classified as dangerous goods. It is a strong oxidizing agent. Eka® SC Aqueous is stable over time, but evaporation of water from the solution will increase the concentration. Dried and crystalized sodium chlorate is stable at temperatures up to 250°C (482°F). Above this temperature chlorate decomposes and oxygen is liberated. Be aware that sodium chlorate in liquid form is a hazard as well. Sodium chlorate solution is a clear odorless liquid that may become invisible when it dries on any organic material like cloth, leather, paper or wood. All that is required is a spark, minor friction or heat, to ignite. Sodium chlorate in its pure form is not flammable; however, due to the fact it releases oxygen during decomposition, it will act as an extreme combustion accelerant in the presence of flammable materials. Additional information on the handling of Eka® SC is available in the Sodium Chlorate Product Information Manual that can be obtained from your Nouryon representative.

Mandatory protective equipment

Because sodium chlorate should never come in contact with organic materials like cloth and leather; make sure, as a minimum, all personnel handling Eka® SC Aqueous are provided with, and required to wear, the following items:

Measure 1	A protective suit (preferred anti-flammable treated) made of vinyl, neoprene, or PVC
Measure 2	A pair of vinyl or neoprene boots
Measure 3	Protective goggles that fit snugly over the eyes
Measure 4	Vinyl or neoprene gloves
Measure 5	A hard-hat with a full-face shield

Additional information

Production at all Nouryon sites is in accordance with certified management systems. To receive a copy of the current certificate(s) contact your Nouryon representative. Nouryon representatives will be pleased to discuss in detail the safe handling, application and benefits of Eka® SC Aqueous.

All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Nouryon, however, makes no warranty as to accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nouryon does not accept any liability whatsoever arising out of the use of or reliance on this information, or out of the use or the performance of the product. Nothing contained herein shall be construed as granting or extending any license under any patent. Customer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes. The information contained herein supersedes all previously issued information on the subject matter covered. The customer may forward, distribute, and/or photocopy this document only if unaltered and complete, including all of its headers and footers, and should refrain from any unauthorized use. Don't copy this document to a website.

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The logo for Nouryon, featuring a stylized blue 'N' followed by the word 'ouryon' in a lowercase, sans-serif font.