

# Eka SC

## Sodium Chlorate

Eka® SC is sodium chlorate; a white to off-white crystalline material in its dry form.

CAS number  
7775-09-9

Molecular weight  
106.45

Molecular formula  
NaClO<sub>3</sub>

### Sodium chlorate characteristics

|                    |                             |
|--------------------|-----------------------------|
| NaClO <sub>3</sub> | ≥ 99.6 wt%                  |
| NaCl               | ≤ 0.1 wt%                   |
| H <sub>2</sub> O   | ≤ 0.2 wt%                   |
| Cr                 | ≤ 8 ppm                     |
| Fe                 | ≤ 5 ppm                     |
| Insolubles         | ≤ 20 ppm                    |
| Appearance         | White to off-white crystal  |
| Density, poured    | 1400-1650 kg/m <sup>3</sup> |
| Density, tapped    | 1450-1800 kg/m <sup>3</sup> |

### 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

Depending on the customer set-up, Eka® SC is shipped in bulk tank, drums or in supersacks. 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, air or sea. Each mode of transport demands specific regulations with special requirements regarding packaging, vehicle and documentation.

|                             |                 |
|-----------------------------|-----------------|
| Proper shipping name        | Sodium Chlorate |
| UN number                   | 1495            |
| 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 is classified as dangerous goods. It is a strong oxidizing agent and is very soluble in water. Crystal 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 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. To arrange your personal interview, please contact your Nouryon account representative, email [bleaching\\_experts@nouryon.com](mailto:bleaching_experts@nouryon.com) or call one of the numbers below.

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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