

Eka ClO₂

Chlorine Dioxide

Eka® ClO₂ is chlorine dioxide; it is generally produced, stored and typically fed as an 8-11 grams per liter aqueous solution to the desired application point.

CAS number
10049-04-4

Molecular weight
67.45

Molecular formula
ClO₂

Chlorine dioxide characteristics

Appearance	Transparent light green liquid
Form	Aqueous solution
Odor	Pungent

Applications

Eka® ClO₂ (chlorine dioxide) is the main bleaching agent used in modern environmentally compatible paper pulp manufacturing. Chlorine dioxide is the main component in ECF (Elemental Chlorine-Free) bleaching. Up to 99 percent of all chlorine dioxide produced worldwide is consumed by the Pulp Industry. Other common applications for chlorine dioxide include use as a broad-spectrum biocide and primary disinfectant for potable and cooling water. In water treatment, appropriate chlorine dioxide solution concentrations are metered directly from an on-site generator to the application point.

Packaging and transport

Chlorine dioxide should be produced at the same site where it will be used. For ground and ocean transportation of aqueous chlorine dioxide solutions you must consult with local regulatory bodies prior to packaging and transporting (even sample quantities). A release of chlorine dioxide in the event of a spill would constitute a significant risk/hazard. Air transportation of chlorine dioxide in any form is prohibited. Nouryon offers the best available techniques for its generation, storage and application each with their own special considerations. For our customers, who own and operate production facilities, we offer flexible service programs to meet their chlorine dioxide technology, safety, operational and maintenance needs.

Safety and handling

Please refer to the current SDS (Safety Data Sheet) to understand the safety aspects, preventive protection required and first aid response. Chlorine dioxide is classified as an acute health hazard. It is a strong oxidizing agent which is very soluble in water. Gaseous chlorine dioxide may evolve from solution presenting serious acute and chronic respiratory risks. Chlorine dioxide stability in solution is dependent on temperatures and partial pressures. Gaseous chlorine dioxide has highly toxic characteristics and a gas release constitutes a significant risk and may become explosive at concentrations in excess of 10% in air. Consequently, proper system design and control is required to prevent unintended chlorine dioxide gas evolution while enabling secure pressure relief. Chlorine dioxide gas readily decomposes to liberate oxygen, heat and chlorine gas. Avoid all contact with organic material, reducing agents, ferrous alloys and sunlight. Chlorine dioxide is not flammable; however, due to the fact that it releases oxygen during decomposition it is an extreme combustion accelerant. Nouryon representatives will be pleased to discuss in detail the safe handling, application and benefits of Eka® ClO₂. To arrange your personal interview, please contact your Nouryon account representative, email bleaching_experts@nouryon.com or call one of the numbers below.

Mandatory protective equipment

Because chlorine dioxide is an extreme respiratory irritant and powerful oxidizer it should never come in contact with organic materials. Make sure, as a minimum, all personnel handling chlorine dioxide are provided with, and required to wear, the following items:

Measure 1	Approved personal escape respirator
Measure 2	Nitrile or Neoprene gloves and boots
Measure 3	Full face mask respirator with ABEK P3 filter
Measure 4	Site required personal protective equipment

Additional information

Eka® ClO₂ production at all Nouryon owned and operated 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® ClO₂. To arrange your personal interview, please contact your Nouryon account representative, email bleaching_experts@nouryon.com or call one of the numbers below.

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The logo for Nouryon, featuring the word "Nouryon" in a bold, blue, sans-serif font. The letter "N" is stylized with a vertical bar on its left side.