Inorganic chemicals

**CHLOR-ALKALI ELECTROLYSIS**
on the basis of membrane cell technology

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**Project information**

**Customer:** JSC Sayanskkhimplast

**Plant:** Chlor-alkali electrolysis

**Location:** Sayansk, Russia

**Capacity:**
1st stage of expansion: 170,000 t/a NaOH (100 %)
2nd stage of expansion: 200,000 t/a NaOH (100 %)

**Special feature:**
First chlor-alkali membrane electrolysis in Russia

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**Services of CAC**

→ Project management
→ Basic and detail engineering
→ Procurement services
→ Expediting and inspections
→ Supplies
→ Installation supervision
→ Commissioning support and training

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CAC is internationally successful in the field of engineering and construction of complete chlor-alkali electrolysis plants all over the world and has many years of experience gained from conversion and new construction projects.

### Products

- Caustic soda: NaOH
- Chlorine: Cl₂
- Hydrogen: H₂
- Sodium hypochlorite: NaOCl
- Hydrochloric acid: HCl

### Feedstock

- Sodium chloride: NaCl
- Water: H₂O
- Electric energy

### Process

Electrolysis of a saturated aqueous sodium chloride solution in membrane cells:

\[
2 \text{NaCl} + 2 \text{H}_2\text{O} \rightarrow \text{Cl}_2 + \text{H}_2 + 2 \text{NaOH}
\]

### Advantages of CAC’s technology

- Supply of tailor-made, complete plants including all auxiliary units
- High product quality
- Ease of operation
- Optimum capital and operating costs
- Plant design tailored to customer requirement

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