



**Fluorinated Material  
Science Solutions  
for the Chlor-alkali Industry**

**AGC**

Your Dreams, Our Challenge

# When it comes to chlor-alkali production, AGC has you covered.

AGC Chemicals boasts a remarkably integrated product chain, starting with basics obtained by electrolysis of brine and extending to a full array of fluorinated compounds. From FORBLUE™ FLEMION fluorinated ion exchange membranes to high performance fluorinated resins, compounds and coatings components, we offer a broad range of material science solutions for safe and efficient chlor-alkali production to meet our customers' needs.



**FORBLUE FLEMION** is a fluorinated ion exchange membrane used to produce caustic soda and caustic potash in electrolysis plants. The membranes are designed to achieve substantial energy savings due to a reduced electrical current needed to decompose the purified brine.

### Advantages

- Resistant to chlorine & caustic soda
- Energy savings from low electric resistance
- High current efficiency
- More stable performance; minimizes the impact of brine impurities
- High quality NaOH & KOH production

### Features

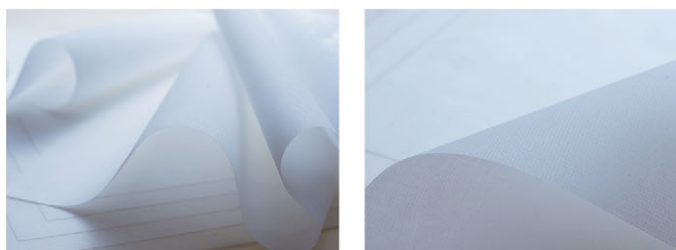
- High resistance to both chemicals & acids
- High mechanical strength & stability
- Highly efficient at dissociation of strong acids
- Achieves both high ionic conductivity & ionic selectivity
- Flexible, even though it is an ion exchange membrane

### Applications

- Manufacture of caustic soda (sodium hydroxide)
- Manufacture of caustic potash (potassium hydroxide)
- Manufacture of chlorine

### Technical Capabilities

- Brine/membrane analysis
- Sample preparation
- History and recordkeeping
- Total organic carbon (TOC) testing
- Induced couple plasma (ICP) testing
- Ion chromatography (IC)
- Automated titration



Product Name	Features
F-8080	Lower power consumption Higher current density Less impurity influence
F-8081	Low power consumption Higher current density Less impurity influence High robustness (reduced pinching issue)
F-8080HD	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters)
F-8081HD	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters) High robustness (reduced pinching issue)
F-8080K	Lower power consumption Higher current density Less impurity influence
F-8081HDK	Lower current density High caustic quality (less NaCl in NaOH) Higher durability (fewer salt blisters) High robustness (reduced pinching issue)
F-8080A	Higher stability for zero gap Higher CE against hydrated state Same voltage and durability as F-8080
Fx-9010	Next generation membrane Lowest voltage Higher CE in both hydrated and dehydrated state Higher durability against impurities



Fluorinated resins, elastomers, compounds and coatings components have many different applications and uses within the chemical processing industry. This is because of the presence of fluorine that gives the added performance that other polymer chains cannot when critical parts and systems are exposed to harsh environments.



- For use as flange gaskets and sodium chlorate electrolyzer gaskets
- No hexafluoropropylene or vinylidene fluoride
- Excellent compression set and chemical resistance
- High operating temperatures at 200°C continuous use
- Peroxide-cured AFLAS allows for retention of physical properties over time
- Specialty FKM and high temperature FFKM resins and compounds also available



- ETFE, PFA and PTFE resins
- Outstanding physical toughness
- Highly suitable for various chemical processing parts
- Connector hose, valve liners, seals, packings & more



- Fluoropolymers enhanced with fillers and pigments
- Impart excellent chemical and heat resistance
- Exhibit high mechanical strength and thermal/electrical conductivity



- LUMIFLON FEVE resins for coatings
- Excellent part of a coating system when corrosion protection is required
- Exceptional weatherability and long-lasting gloss retention



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**Chemistry  
for a Blue Planet**  
AGC Chemicals

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