The Fluorochemical Industry

C. Manufacturers of Organic Fluoro Compounds in Japan

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1. Fluorinated Membranes

Aciplex-F Ion-exchange membrane.
Acilyzer-ML Chlorine-alkali electrolyzing membrane.

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\begin{align*}
\text{Aciplex-F} & : \text{[CF}_2\text{CF}_2\text{]}_x - \{\text{CF}_2\cdots\text{CF}\}_y \cdots \\
\text{Acilyzer-ML} & : \text{[CF}_2\text{CF}_2\text{]}_m - \text{O-} - \{\text{CF}_2\text{CF}\}_n - \text{X} \\
& \quad \text{CF}_3 \quad \text{[X = CO}_2\text{Na}^+, \text{SO}_3\text{Na}^+] 
\end{align*}
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2. Fluorinated Elastomer

Miraflon (vinylidene fluoride-based).

3. Anticancer Drug

Sunfural S (1-(2-tetrahydrofuryl)-5-fluorouracil, tegafur).

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1. Fluorinated Gases and Liquids

*Asahi Flons*

AF-11, 12, 13, 14 (CF₄), 21 (CHCl₂F), 22, 23 (CHF₃), 13B1 (CBrF₃) 112, 113, 114, 115, 116, 122 (CHCl₂—CCI₂F₂), 123 (CHCl₂—CF₃), 142b (CCI₂F—CH₃), 152a (CHF₂—CH₃), 218 (CF₃CF₂CF₃), 1113 (CCI₁F—CF₂), 1114 (CF₂—CF₂), 1216 (CF₃CF₂—CF₂), c-318 (CF₂CF₂CF₂CF₂), 500 (CCI₂F₂/CHF₂—CH₃), 502 (CHClF₂/CCI₂F₂—CF₃), 503 (CHF₃/CCI₂F₃).

2. Fluorinated Fire Extinguisher

*Asahi Halons*

1301, 1211, 2402.

3. Fluorinated Plastics and Elastomers

*Fluon*  PTFE plastic, in the form of molding powder, fine powder, dispersion, and lubricant.

*Aflon-COP*  Ethylene/TFE copolymer (ETFE). Easy moldability, high chemical resistance, good mechanical properties, etc.

*Aflon-PFA*  Perfluorovinyl ether/TFE copolymer. —[CF₂—CF₂—CF₂—CF]ₙ—O—R₂

* AFLAS*  Propylene/TFE copolymer-based fluoroelestomer. Excellent properties including nonflammability, high solvent and oil resistance.

*Technofoam*  Vinylidene fluoride/HFP, and vinylidene fluoride/HFP/TFE-based fluorinated elastomers.

4. Fluorinated Coating Material

*LUMIFLON*  Solvent-soluble fluoropolymer which is used for coating various types of outdoor structures. Characteristic properties are: high weather resistance, wide range of coating, excellent gloss and beautiful appearance, easy removal of stains, and economical long-term maintenance, etc.

5. Functional Membrane and Materials

*Flemion*  Fluorinated membranes used for electrolysis of sodium chloride solution for the alkali and chlorine production. Low-energy consumption, high-quality durability, and easy adaptability are the features.