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INDUSTRIAL PRODUCTION AND USES OF FLUORINE

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The fluorine market is presently characterized, in the Occidental World, by an overproduction of about 25% for a total capacity of 15000 to 20000 metric tons per year.

This market is divided into about 50% for the USA, 35% for Europe, and most of the remainder for Japan.

Research is being conducted by various countries in order to lower the price of fluorine by increasing the individual capacity of electrolytic cells, and chiefly by increasing their electrical efficiency.

The current price is too high for a lot of potential uses.

The major applications of fluorine are to produce:

- UF_6 for nuclear uses with 56% of the market,
- SF_6 for electrical applications with 40%,
- and the other main compound is CF_4 with only 2.3% of the market.

The major applications of fluorine compounds may be divided into:

- electricity, insulation, solar panels, batteries, ...
- electronics, wave guides, silicon metallization or printing, ...
- metallurgy, production of objects by CVD, ...
- oil industry, perfluorinated lubricants, ...
- optics, fluorine glasses, optical fibers, ...
- plastics, glasses and papers, surface treatments, ...
- organic and mineral chemical uses,
- medical uses,
- and other applications, each one being developed at the corresponding plenary session.

The applications are in development, but an important research program has to be carried out to decrease the price of fluorine.