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STUDY OF THE COMMERCIAL PERFLUOROPOLYETHER AND ITS MOLECULAR WEIGHTS DISTRIBUTION.

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Perfluoropolyethers (PFPE) have high chemical and thermal stability and excellent physical properties. They are a well-known class of fluids with several technological applications.

In the production of perfluoropolyethers commercially known as Fomblin, it is obtained a product with a wide distribution of the molecular weights which spread from 1500 to 10.000 amu.

The distillation of this product, followed the ASTM-D 1160/87 norm carried out at 0,3-0,4 Torr and temperatures up to 400°C, providing standard cuts of increasing viscosity. These cuts are normally designated by two numbers. The first one is the viscosity in centistokes divided by 10 and the second one is the reciprocal of the exponent of the order of magnitude of the vapor pressure, being both of them measured at 20°C.
This paper studies the behaviour of various commercials cuts (6/6, 16/6, 18/8 and 25/5) of the group Fomblin-Y.

The distillation of each commercial cut provides various fractions from which we can determine the distribution of its molecular weights.

The knowledge of the molecular weights distribution of these commercial PFPE is very important to be compared with the PFPE produced in our laboratories.