CLAIMS

1. Electrolytic cell (100) for the production of oxidising solutions comprising an anodic compartment (200) containing an anode (250) and a cathodic compartment (400) containing a
cathode (450) with an intermediate compartment (300) delimited by an anodic separator (320,321) and a cathodic separator (340) arranged therebetween, said cathodic separator (340) interposed between said cathodic compartment (400) and said intermediate compartment (300) comprising a cation-exchange membrane, said anodic separator (320,321) interposed between said anodic compartment (200) and said intermediate compartment (300) comprising
a diaphragm (321) formed by a network of organic polymer fibres mechanically bound to ceramic material particles, said diaphragm (321) being arranged in one or more layers in intimate contact with an anion-exchange membrane (320), wherein said anodic separator (320,321) is oriented with a major surface consisting of said diaphragm (321) facing said anode (250).

2. The cell according to claim 1 wherein said diaphragm (321) of said anodic separator (320, 321) is made of a 0.1 to 1 mm thick composite tape of perfluorinated polymer and zirconium oxide.

3. The cell according to any one of the preceding claims, wherein said anodic compartment (200) is provided with means for supplying water and means for extraction of an oxidising solution, said cathodic compartment (400) is provided with means for supplying water and means for extraction of alkaline catholyte, said intermediate compartment is provided with means for recycling alkali chloride brine.

4. Method for the production of an oxidising solution containing active chlorine in a cell according to any one of the preceding claims, comprising the following simultaneous or successive steps:
   - supplying water to said anodic compartment and optionally to said cathodic compartment;
   - recycling alkali chloride brine through said intermediate compartment;
   - supplying direct electrical current between said anode and said cathode;
   - extracting the product oxidising solution from said anodic compartment.

5. The method according to claim 4 wherein said water supplied to said anodic and cathodic compartments has a hardness of not more than 7°f.

6. The method according to claim 5 wherein said oxidising solution extracted from said anodic compartment has a pH of 4 to 6.9.

7. The method according to claim 4 to 6 wherein said alkali chloride brine recycling is carried out through an external reservoir containing a decomposition catalyst optionally based on RuO_2 or Co_3O_4.

8. The method according to any one of claims 4 to 7 where said alkali chloride brine is a saturated of sodium chloride brine.
