

ELECTROCHEMICAL SENSOR FOR  
DETECTION OF CHLORINE IN  
PHOSGENE

ABSTRACT OF THE DISCLOSURE

5           An online system for detecting the presence of low levels  
of chlorine in a stream of phosgene is described. Detection is based  
on the electrochemical reduction of chlorine at a platinum electrode at  
potentials at which other components of the phosgene stream and  
electrolyte cause no interference. A continuous flow of electrolyte over  
10 the surface is maintained by gravity feed or by a positive pumping  
mechanism. The electrolyte flow rate is about 1 to about 10 ml per  
hour. Organic electrolytes are preferred although aqueous  
electrolytes can be used. The sensor of this invention can detect very  
low levels of chlorine. The electrode can be regenerated in place. The  
15 detector system comprises five main components including a gas  
delivery subsystem, the electrochemical sensor, a temperature control  
unit, a signal measurement subsystem, and a scrubber subsystem.

Figure 1