

PROCESSES AND SYSTEMS FOR PURIFICATION OF BORON TRICHLORIDE

ABSTRACT

Processes are disclosed for increasing the condensed phase production of BCl_3 comprising less than about 10 ppm phosgene, less than 10 ppm chlorine, and less than 10 ppm HCl . In one embodiment the process comprises injecting an inert gas into a container having condensed BCl_3 therein, the condensed BCl_3 having therein a minor portion of phosgene impurity. A major portion of the phosgene in the condensed BCl_3 is decomposed to carbon monoxide and chlorine by increasing temperature to produce a phosgene deficient stream. The temperature of the phosgene deficient stream is then decreased, and contacted with an adsorbent to remove the chlorine in the stream by adsorption to form a chlorine and phosgene free condensed stream. The chlorine and phosgene free stream is stripped using an inert gas to form a BCl_3 product condensed stream, and an inert gas is used to pump the BCl_3 product condensed stream to a product receiver.

Figure 1