PLASCON

CASE STUDY

GREENHOUSE GAS DESTRUCTION AT QUIMOBÁSICOS, MEXICO

WASTE TREATED - HFC-23 FROM HCFC-22 PRODUCTION

QUIMOBÁSICOS IN MONTERREY, MEXICO

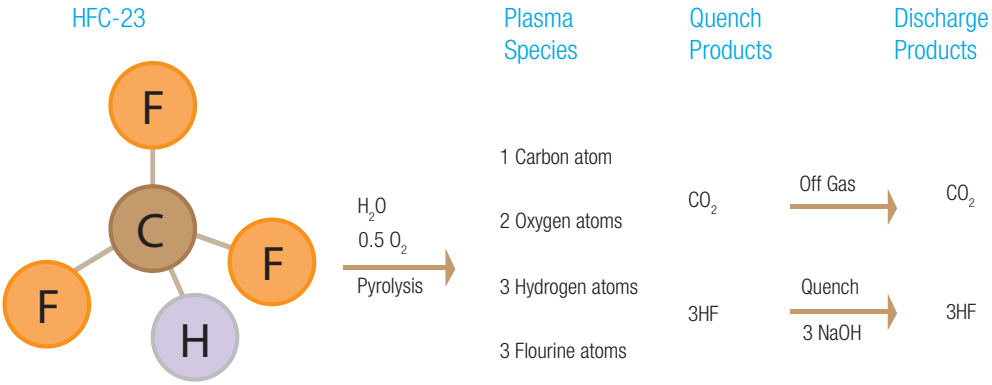
Background

Quimobásicos S.A. de C.V. is a Mexican chemical manufacturing company. Their plant in Monterrey, Mexico, operates two refrigerant process lines for HCFC-22. The process for manufacturing HCFC-22 produces a small quantity of HFC-23 as a byproduct. As the global market for HFC-23 is extremely small, historically the major portion of this byproduct has been vented to atmosphere.

Following the ratification of the Kyoto Protocol, due to HFC-23's high Global Warming Potential (GWP) of 11700, it became possible to fund the capture and destruction of this HFC-23 via a Clean Development Mechanism (CDM). A PLASCON® plant was selected for this duty as, not being an incinerator, its approval for operation by the local authorities was simplified.

Chemistry

The decomposition chemistry for HFC-23 follows:



Note: H_2O is added in the form of steam, and the required oxygen comes from compressed air.

Waste Treated

The HFC-23 gas from the refrigerant manufacturing operations is buffered in a feed tank, before being fed directly to the PLASCON® plant. This incoming gas contains a small portion of air and HCFC-22, which is also destroyed by the PLASCON® plant.

Operational Efficiency

Quimobásicos' PLASCON® plant has been operating since April 2006, destroying HFC-23, and earning Certified Emission Reductions (CERs) under the conditions of the Kyoto Protocol. Destruction Efficiency (DE) has been calculated at between 99.999999% and 99.9999999% during 2007, with flow rates ranging from 30kg/h to 60kg/h.