

Dear Customer

The Fluorochemical industry experienced significant volatility in 2010 which had an impact on both the availability and pricing of refrigerants. This letter seeks to explain the likely situation in 2011.

Availability and cost of primary raw materials

The Primary raw material used to manufacture Refrigerants is increasing in cost and decreasing in availability

- The costs of Fluorspar and Sulfur (the two components to make Hydrogen Fluoride, the source of Fluorine for all Fluorochemicals) have increased dramatically. Fluorspar mine capacities have decreased in recent years and China, a significant source, has put trade restrictions on exports.
- Chlorocarbon global capacities have decreased by around 50% in recent years and costs have risen sharply as availability has become tight. Chlorocarbons are reacted with Hydrogen Fluoride to make Hydrofluorocarbons (HFCs).
 - Many Chlorocarbon manufacturing sites were closed as they were loss making and no investment is being made to re-establish capacity
- As the raw materials to make fluorocarbons have been in short supply and increasing in cost, the prices of Fluorochemicals have necessarily risen sharply throughout 2010.

Growing demand for HFC's

- All HFC's are increasing in demand globally
 - Domestic demand for HFCs in large growing economies (especially China) continues to rise.
 - Legislation banning or restricting the use of HCFCs has further increased the demand for HFCs.
 - Examples include a) USA replacing R22 with R134a in Foam Blowing / b) US R22 new equipment charge ban / c) Middle East moving to HFC
 - The result is that Fluorochemical plant utilization rates have been pushed to record highs globally, including in China.
 - As the global economy recovers, capacity utilisation ratios are very high and will continue to be so in 2011.

R125 and R134a

- R125 (key blend component in HFC products) & R134a (key product and blend component in HFC products)

- Global inventories low. Our suppliers have indicated that market prices look likely to triple due to lack of availability of raw materials and high capacity utilisation ratios
- Global market demand is increasing, especially in Asia
- Due to the legislative environment many global manufacturers are not willing to invest in new production capacity for products that may have a relatively short life time hence capacity constraints will remain.

These pressures will affect all Fluorochemical Refrigerants that BOC supply. BOC do not manufacture these products and source them from the global Chemical manufacturers including but not limited to Dupont, Arkema, Solvay and Honeywell. Price increases from the manufacturers to BOC are occurring monthly (and in some circumstances up to twice a month)

BOC are currently working with our supply partners to ensure that we have sufficient supply to support our existing customers and will retain the supply blocks we placed in 2010 on all new customers . Additionally due to the significant and constant cost increases expected in 2011 we will continue to implement monthly price changes to our customers.

We hope this helps your understanding of the volatile situation we as an industry find ourselves in. Please share this with your customers to help them understand why prices are rising so sharply and availability continues to be an issue.

Yours sincerely

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