

## REFRIGERANT INDUSTRY UPDATE : R-134a

**Date: February 11, 2005**

A global shortage of refrigerant R-134a is currently impacting North America. This shortage is affecting all segments where R-134a is used, including automotive air conditioning, commercial refrigeration and air conditioning, aerosols, blowing/insulating agents, and other applications.

**Demand for of R-134a is up significantly, and will likely continue to increase.**

- **Phaseout of CFCs in Article 5 countries**  
113 countries, including Mexico, Brazil, China and India are required to reduce their production and consumption of CFCs in 2005 by 50%. This phase-out continues in 2007 with an 85% reduction, followed by a complete phase-out of CFCs by 2010. The primary replacement for CFC-12 is R-134a, and demand for this refrigerant is expected to grow rapidly in these countries.
- **Growth in European Automotive Air Conditioning**  
The largest car market in the world today is Europe, which continues to see strong increases in penetration of factory-installed R-134a air conditioning systems. In 1995 approximately 30% of new cars had factory air conditioning, however that number has risen above 60% today and is expected to reach 80-90% before the end of the decade. The aftermarket demand for R-134a for servicing systems is growing proportionally.
- **Growth in Chinese Automotive Air Conditioning**  
China is the fastest growing market for new cars, with most new cars equipped with R-134a factory air conditioning. As in Europe, the aftermarket demand for R-134a is growing quickly.

**Supply of R-134a has been reduced, and is not likely to improve quickly**

- **Production Issues**  
Several R-134a producers had production difficulties in 2004 that have resulted in unusually low inventories entering the 2005 season. Although it is possible for producers to recover if plants operate well, this is not guaranteed and it will take several months at least to make up for the lost production.
- **Reductions Due to Growth in Alternative Products**  
Several R-134a producers operate "swing" plants allowing them to manufacture R-134a or R-125. R-125 is the common component among all R-22 replacements such as R-404A, R-507 and R-410A, and demand for these products is growing with the phaseout of R-22 in Europe, Asia and North America. In 2004 one R-134a plant in Europe was taken offline for permanent conversion to R-125 manufacturing, and two "swing" plants likely produced less R-134a and more R-125 due to the higher prices for R-125 based products compared to the low prices and margins associated with R-134a.
- **Uncertain Future**  
R-134a is likely to be phased out of automotive air conditioning in Europe in the 2011 - 2017 time frame as part of the European Union implementation of the Kyoto Protocol. Although that market is currently growing, its eventual demise reduces the incentive for manufacturers to invest in more R-134a capacity. Although companies in China and India are likely to begin production of R-134a in the future, the quality, quantity, and timing of such production is still uncertain.