



molecular

C A S E S T U D Y



The emergence of pre-packed solutions for emergency situations

# Case Study

## The emergence of pre-packed solutions for emergency situations

---

Molecular Products Ltd is a world leading supplier of soda lime and has supplied its products both in bulk and as pre-packed ready use material. However, until recently most of the pre-filled ready use material has been supplied to the medical sector for use in low flow anaesthesia applications. There has been some pre-packed S-grade material supplied to various NATO navies for emergency/routine atmosphere conditioning in submarines but this has been on a relatively small scale. Thus, our focus has been firmly fixed on small scale pre-packaged units.

As a result of new regulations in the USA a requirement arose from a group of customers whom were using our loose fill material for a pre-packaged solution. This was because the draft regulations prohibited the use of bulk material in an emergency situation.

Drawing upon our many years of experience with gas flows and optimum throughput in smaller cartridge systems, Molecular Products committed itself to the manufacture of a large cartridge to meet the needs of this application.

The factors which were encountered and successfully overcome included capacity versus pressure drop, balancing the structural strength and flammability of the materials against weight and resistance to corrosion over an extended shelf life, as well as ensuring that the packaging could ensure the performance of the product at the moment of critical requirement without being too bulky.

This necessitated moving to a custom moulding part manufactured in UK to be able to offer a far superior performance over off the shelf components. The final products which emerged were our HiCap™ CO<sub>2</sub> and HiCap™ CO units which both demonstrate outstanding contaminant removal performance (carbon dioxide and carbon monoxide) in emergency situations.

Launched in March 2009 we have already received orders for thousands of units for mine safety refuges as well as arousing the interest of shipbuilders constructing emergency response vessels for 'citadel' crew protection. This product has an extremely bright future and, more importantly, may potentially save many lives in emergency situations.

### Molecular Products Limited

Parkway, Harlow Business Park  
Harlow, Essex, CM19 5FR, UK

**T** +44 (0)1279 445111  
**F** +44 (0)1279 401231

**E** [sales@molprod.com](mailto:sales@molprod.com)  
**W** [www.molecularproducts.com](http://www.molecularproducts.com)