GASES IN PROTEX MODACRYLIC FIBRES

VXS+ INHERENT

Smoke and Toxicity issues and Kanecaron modacrylic fibres

Over the years, it has often been mentioned by competing fibres suppliers that in the case of Kanecaron and Protex modacrylic fibres, high amounts of noxious gases are produced when garments are exposed to attack by flame and heat and that these are harmful to the health of the wearer. Equally, much work has been done to show that, whilst gases are produced during the actual impact of such flame onto the surface of the fabric – and that some of these may be harmful in large concentrations in unventilated spaces – such gases are produced in such small amounts not to be significant. Tests such as the Airbus test for smoke generation and toxicity in relation to the burning of aircraft textile materials in enclosed space consistently show that the amount of gases produced fall well below any limit imposed.

These gases serve to instantaneously push oxygen away from the fabric surface and thus prevent the continuation of flaming and spread of any fire.

More research based on the manikin test (as described in NFPA 2112 and EN13506 for Protection against Hydrocarbon Flash Fire, and over 3 and 4 second exposure times) has been carried out: this is considered to be a most extreme flame incident. Such research has shown that damage to the upper airway (trachea, larynx and oesophagus) would be very severe and would pose a much greater danger to health and survival than would any impact of any gases produced. Gas production is instantaneous and stops as soon as the flame is no longer present, and the quantity of such gases taken in by the individual is restricted by the flame attack time and cannot be considered as significant.

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This document has been prepared with content from Kaneka Corporation – the producer of the Protex Modacrylic fibre and Peter Seward of Waxman Fibres Ltd