Table III

Surface Rhodium Concentrations as Determined by EDXA
per cent

Knitted pack			Conventional woven pack
Gauze 1	knitted	8.9	12.5
Gauze 2	knitted	9.0	12.7
Gauze 3	woven	11.5	11.4
Gauze 4	woven	11.9	11.5
Gauze 5	woven	9.7	11.2

Starting rhodium content of knitted gauze 10.05 per cent

potential benefits can be summarised as follows:
(a) Increased conversion efficiency
(b) Reduced rhodium oxide formation
(c) Higher surface area available for catalysis
(d) Fabric flexibility providing greater resistance to damage by thermal shock
(e) Stronger material, the ability to resist tearing being superior to that of woven gauze
(f) Choice of alloy: any changes from the standard 10 per cent rhodium-platinum catalyst can be considered; indeed any combination of rhodium, platinum and palladium can be knitted into gauzes, and many have been. If a chosen alloy can be processed to wire of a suitable diameter, then the possibility of knitting it is extremely high
(g) Only minimal stock levels are required; this enables the supplier to respond more quickly to the needs of the consumer.

Johnson Matthey believe that this range of products and the associated technology, will have a major impact on the chemical industry and will encourage platinum metals catalyst development to take place in ways that, previously, have only been considered in theory.

References

1 K. Kaiser, *German Patent* 271,517, 1909
2 S. L. Handforth and J. N. Tilley, *Ind. Eng. Ind.*, 1934, **26**, (12), 1287
3 K. G. Gough and B. L. Wibberley, *Platinum Metals Rev.*, 1986, **30**, (4), 168

Platinum and Iridium Silicide Infrared Imagers

INCREASING OPPORTUNITIES FOR DIVERSE APPLICATIONS

In a recent communication from the David Sarnoff Research Center, Princeton, New Jersey, the background to the continuing development of platinum silicide infrared imaging devices is discussed (J. R. Tower, *Infrared Technol.*, 1991, **25**, (2), 103–106).

When the concept of Schottky-barrier infrared focal plane arrays was first put forward by researchers at the Rome Air Development Center, in 1973, it was proposed that detectors formed by the reaction of platinum, or palladium, with *p*-type silicon would be sensitive in the 1 to 5 μm band. Before the end of the decade the Sarnoff Laboratory had demonstrated a 25 $\times$ 50 platinum silicide imager operating in the 3 to 5 μm band, and five years later they had developed a 160 $\times$ 244 array with a noise equivalent temperature difference of 0.1 K. Now they are developing cameras around three focal plane arrays, namely 64 $\times$ 128 and 320 $\times$ 244 infrared charge-coupled devices and a 640 $\times$ 480 complementary metal-oxide silicon infrared imager. Applications include thermography, radiometry, industrial process control and scientific imaging.

In the future it is planned to produce iridium silicide complementary metal-oxide silicon infrared imagers with wavelength capability from 1 to 10 μm or 0.2 to 10 μm with back- or front-side illumination, respectively.