would give rise to a detectable thermal e.m.f. In reality the gradients may have been 1000 times this and not particularly steady. It seems that the averaging involved in the resistance measurement, coupled with the usual trick of current reversal, did reduce the parasitic effect to manageable proportions, but in the noise thermometry the fluctuations in thermal e.m.f. became progressively more damaging as T and the thermopower increased. Improvements could be made—increasing R and I_0 would increase V_0 without increasing the thermal e.m.f., and of course better temperature regulation would help. However, it is also desirable to make improvements in the general technique of noise thermometry, especially in speeding it up. A successor to the pilot experiments described here would best wait for these to materialise. Astonishing as the present capabilities of SQUID devices are, their exploitation is incomplete and advances in noise thermometry will surely come. It may never reach the stage of push-button simplicity, but it would be surprising if the N.B.S.-N.P.L. experiment were to be the end of the story.

References

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Platinum Activated Alumina Spheres

EFFICIENT CATALYSTS FOR CONTROLLING ORGANIC AIR POLLUTANTS

When organic solvents are removed from an industrial process by evaporation there is an obvious need to avoid the discharge of any toxic or malodorous emissions that may constitute a hazard to health or be a nuisance to people working or living in the affected area. Such fumes consist basically of carbon and hydrogen and therefore the most effective control is provided by burning them to carbon monoxide and water. In this way the possibility of secondary pollution, which may occur with other forms of pollution control is avoided. Catalytic combustion over a supported platinum metal enables the oxidising reaction to take place in a shorter time and at a lower temperature than straight thermal incineration, and is therefore a more fuel-efficient way of controlling such gaseous process effluents; as even very low levels of odorous pollutants may be detected, this is a demanding application.

In order to minimise pressure drop through the catalyst unit many types of support have been designed, including ceramic honeycombs that are wash-coated with alumina prior to activation with the platinum catalyst. In a recent paper J. G. Irwin and R. L. Moss of the Warren Spring Laboratory, Stevenage, England, now consider the possibility that beds of small spheres could be more efficient than other supports despite the increased pressure drop, (*J. Chem. Tech. Biotechnol.*, 1980, **30**, (12), 657–666). They describe work concerned with the location, dispersion and amount of platinum used to activate alumina supports by creating sufficient platinum surface at, or near, the periphery of the spheres, so that the molecules to be oxidised can readily find vacant platinum sites where the reaction will take place, when the temperature is high enough.

Experimental conditions of catalyst preparation, characterisation, and testing with both dimethyl sulphide and *n*-butanal are given.

The authors conclude that highly efficient catalysts for the control of organic air pollutants can be prepared on particulate supports, and for specific applications maximum catalyst performance may be a more important consideration than the additional pressure drop caused by this type of support. In view of the difficulty in separating and examining individually the effects of good platinum dispersion and correct location, it is suggested that the platinum loading could be specified for a given method of catalyst preparation.