

PERFORMANCE OF DETECTOR TUBES FOR SULPHUR-CONTAINING GASES
AND CHLORINE IN PULP MILL ATMOSPHERES

INTRODUCTION

The following Technical Bulletins by the U.S. National Council of the Paper Industry for Air and Stream Improvement (NCASI) are summarised:

- Field Investigation of Several Sulphur Gas Measurement Methods for Use in the Kraft Pulp Manufacturing Workplace Environment. December, 1981. Technical Bulletin No. 361.
- Field Investigation of Several Sulphur Gas Measurement Methods for Use in the Kraft Pulp Mill Chemical Recovery Area Workplace Environment. October, 1982. Technical Bulletin No. 383.
- A Laboratory Investigation of the Use of Commercial Detector Tubes for the Measurement of Chlorine and Chlorine Dioxide in Pulp Bleaching Area Workplace Atmospheres. October, 1983. Technical Bulletin No. 411.

The bulletins describe laboratory and mill-site tests to determine the accuracy of length-of-stain gas detector tubes for hydrogen sulphide, methyl mercaptan, sulphur dioxide, and chlorine in the presence of potentially interfering gases.

Readings using detector tubes from Bendix-Gastec, Draeger, Matheson-Kitagawa and MSA were compared with simultaneous analyses by gas chromatography for sulphur-containing gases in:

- (i) a brownstock washer area, and
- (ii) a chemical recovery area where there was potential interference from black liquor combustion products.

Chlorine detector tubes from the same manufacturers were tested under laboratory conditions in an atmosphere simulating a bleach plant. Accuracy, precision, and interference from chlorine dioxide and sulphur dioxide were studied.