

BRITISH STANDARD FOR  
METHYLENE BLUE  
PARTICULATE TEST FOR  
RESPIRATOR  
CANISTERS

**B.S. 2577 : 1955**

THIS BRITISH STANDARD, having been approved by the Personal Safety Equipment Standards Committee, was published under the authority of the General Council on 31st March, 1955.

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 2500, indexed and cross-indexed for reference, together with an abstract of each standard, will be found in the Institution's Yearbook,

This standard makes reference to the following British Standards:

B.S. 796 Rubber hose with cotton braided reinforcement.

B.S. 924 Rubber hose with woven fabric reinforcement.

*British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.*

The following B.S.I. references relate to the work on this standard:—  
Committee reference PSM/11      Draft for comment CR(PSM) 9298

## CO-OPERATING ORGANIZATIONS

The Personal Safety Equipment Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:—

Associated Portland Cement Manufacturers  
 Association of British Chemical Manufacturers  
 British Chemical Plant Manufacturers' Association  
 British Leather Manufacturers' Research Association  
 British Iron and Steel Federation  
 British Ironfounders' Association  
 British Red Cross Society  
 Combustion Engineering Association  
 Cotton Board  
 \*Federation of British Rubber Manufacturers' Associations  
 Federation of Civil Engineering Contractors  
 Glass Manufacturers' Federation  
 Imperial Chemical Industries Ltd.  
 Industrial Welfare Society  
 Institute of British Foundrymen  
 Institute of Welding  
 Institution of Civil Engineers  
 Institution of Engineering Inspection  
 Institution of Mechanical Engineers  
 Institution of Production Engineers  
 Institution of Structural Engineers  
 Medical Research Council  
 National Federation of Building Trades Employers  
 National Paint Federation  
 Royal Society for the Prevention of Accidents  
 Shipbuilding Employers' Federation  
 Trades Union Congress

The scientific and industrial organization marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:—

Association of British Insecticide Manufacturers  
 British Agricultural Contractors' Association  
 British Mechanical Rubber Manufacturers' Association  
 British Plastics Federation  
 Fungicide and Insecticide Research Co-ordination Service  
 Manufacturers of Protective Equipment  
 Ministry of Agriculture and Fisheries  
 Ministry of Labour and National Service  
 Ministry of Supply  
 National Farmers Union  
 Society of Chemical Industry

# BRITISH STANDARD FOR METHYLENE BLUE PARTICULATE TEST FOR RESPIRATOR CANISTERS

## FOREWORD

This British Standard is based on Porton Specification No. 1141 prepared by the Chemical Defence Experimental Establishment of the Ministry of Supply. Acknowledgment is made to the Chief Scientist, Ministry of Supply, for permission to use Porton Specification No. 1141 and Crown copyright is reserved in the drawings which are reproduced with the permission of the Controller, H.M.S.O.

According to this British Standard a particulate test cloud of methylene blue is generated continuously and is passed through the respirator canister and a filter paper in series. Particles of dye penetrating the canister are retained on the paper, the blue stain produced is developed to its maximum intensity and compared with a series of standard stains which enables an estimate to be made of the percentage of particles penetrating the canister.

## SCOPE

1. This British Standard specifies the methylene blue particulate test which permits the assessment of the protection afforded by respirator canisters against particulate clouds. It includes the method of test, preparation of standard stains, description of the apparatus required and notes on its maintenance.

## DEFINITION

2. *Canister.* For the purpose of this British Standard the canister is that part of the respirator containing the filtering medium.

## DESCRIPTION OF APPARATUS

3. The apparatus is shown diagrammatically in Fig. 1. It comprises the following main sections:—

*a. Test cloud generator.* This comprises the atomizer A, needle valve  $V_1$ , pressure gauge D, compressed air flow meter  $M_1$  and evaporation tube E.

*b. Control cock C.*

*c. Test circuit.* This comprises the canister holder R, test paper holder F, flow meter  $M_2$  and control valve  $V_2$ .

*d. By-pass circuit.* This comprises the filter G, flow meter  $M_3$  and control valve  $V_3$ .