



## STATEMENT ON OCCUPATIONAL CANCER FOR MbOCA

This statement has been prepared by the Health and Safety Executive (HSE), and the employer and employee representatives from the Rubber Industry Advisory Committee (RUBIAC).

MbOCA (2,2'-Dichloro-4,4'-methylene dianiline) is used as a curing agent in the manufacture of moulded polyurethane articles. MbOCA may cause bladder cancer if it is inhaled, absorbed through the skin or ingested with food, drink or cigarettes.

MbOCA is not manufactured in the UK. It is supplied in pellets, granules or in a liquid form and used as a curing agent, by the polyurethane elastomer industry. The use of MbOCA is confined to a small part of this industry, of less than 30 companies.

MbOCA is not very volatile, but is easily absorbed through the skin hence occupational exposure occurs mainly via skin absorption. It is vitally important, therefore to prevent skin contamination of MbOCA.

Under the Control of Substances Hazardous to Health 2002 (COSHH) MbOCA has an inhalation working exposure limit (WEL) of 0.005 mg/m<sup>3</sup> 8hr TWA and a Biological Monitoring Guidance Value (BMGV) of 15µmol MbOCA/mol creatinine in urine, measured post shift. Biological monitoring helps to monitor the amount of MbOCA in exposed workers by measuring the amount of MbOCA in their urine.

### [More information from the HSE COSHH website](#) <sup>[1]</sup>

The priority for the polyurethane elastomer industry should be, to either prevent or control their workers' exposure to MbOCA to as low as reasonably practicable and below the WEL of 0.005mg/m<sup>3</sup> and the BMGV of 15µmol MbOCA/mol creatinine in urine. Employers are advised to stringently follow the good working practices detailed in the existing HSE/BRPPA guidance leaflet "Do you use MbOCA?"

### ["Do you use MbOCA?" guidance leaflet](#) <sup>[2]</sup>

As a part of the HSE Disease Reduction Programme and the Cancer Project, HSE carried out a survey of workers' exposure to MbOCA in the polyurethane industries during 2005-07. Findings of this project have shown that airborne exposures to MbOCA were very low and well below the WEL of 0.005mg/m<sup>3</sup>. Urine monitoring showed that 90% of the results were about half the BMGV. However, dermal exposure was more likely during casting and mould trimming and a need for improving guidance on suitable glove materials was identified.



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### Preventing skin contact during removal of reusable gloves <sup>[3]</sup>

Further HSE work carried out in 2008 will assess whether it would be prudent to reduce the BMGV in the future. RUBIAC will be monitoring the progress of this project and will ensure that recommendations are progressed. BRPPA have also commissioned an epidemiological study of workers using MbOCA in polyurethane elastomer production to assess the cancer risks. This study began in 2001 and is due to be published in 2009. BRPPA will inform the industry of its findings.

RUBIAC will revise and re-issue this statement as new information becomes available.

### Link URLs in this page

1. More information from the HSE COSHH website  
<http://www.hse.gov.uk/coshh/index.htm>
2. "Do you use MbOCA?" guidance leaflet  
<http://www.hse.gov.uk/pubns/msa21.htm>
3. Preventing skin contact during removal of reusable gloves [130KB]  
<http://www.hse.gov.uk/skin/posters/glovesreuse.pdf>