

<b>Health and Safety Executive</b>		<b>Sector Information Minute</b>	
<b>Manufacturing</b>		<b>SIM 03/2006/12</b>	
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Target Audience:  
All visiting staff including Local Authority Inspectors  
Health Unit

## **MOTOR VEHICLE REPAIR: SPRAYING ISOCYANATE-CONTAINING PAINTS**

### **DEVELOPING ISSUES**

#### **CONSEQUENCES OF THE 'PAINTS' DIRECTIVE – ISOCYANATE PAINTS ARE NOT BEING BANNED**

The introduction of the Paints Directive will mean that MVR bodyshops can only use low-solvent paints after January 2007. Rumours that isocyanate-containing paints will be banned, are incorrect. In fact, the quantities of isocyanate hardeners required to cure the new generation of high-solids paints is likely to increase. Isocyanates will continue to be used in some primers and base coats as well as in UV-cured coatings. The standards set out in SIM 03/2006/04 will be applicable.

### **BACKGROUND**

1 The Paints Directive is environmental legislation that aims to reduce emissions of volatile organic compounds (VOCs, solvents) across the UK and Europe. VOCs are precursors to the formation of ground level ozone (summer smog) and reductions resulting from implementation of this Directive should lead to improvements in air quality and public health. The Directive has been implemented in the UK by DEFRA through The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products Regulations 2005 (Statutory Instrument 2005 No. 2773). A copy of the Regulations is available from the Office of Public Information website

2 These 'Paints Regulations' are being phased in and use a product-based approach to control emissions by setting:

- Maximum content limits for solvents (VOCs) in decorative paints, varnishes and vehicle refinishing products, manufactured from 01 January 2007 (Phase I);

- More stringent limits for the maximum content limits of solvents of decorative paints and varnishes, manufactured from 01 January 2010 (Phase II).

3 Vehicle refinishing products manufactured before 1 January 2007 can be sold for 12 months after this date, e.g. until 31 December 2007. There is no requirement to use up any stocks held by vehicle refinishing operators by a specified date. Although the new Paint Regs will only allow low-solvent products ('compliant' products) to be sold, Defra intend that there will be an exemption for the restoration and maintenance of historic vehicles.

4 For vehicle refinishing operators using more than 0.5 tonne of solvents in any 12 month period, the Solvent Emissions Directive<sup>1</sup> (SED) would have required additional controls, e.g. requiring operators to develop a solvent-reduction plan. The SED has now been repealed for these operators<sup>2</sup>. Vehicle refinishing operators using more than 1 tonne of solvents in any 12 month period continue to be regulated under the Pollution Prevention and Control (England and Wales) Regs 2000 (PPC) (and equivalent legislation in Scotland).

5 Further information on the 'Paints' Directive is available from the Defra Website.

#### THE FUTURE OF ISOCYANATES IN PAINT PRODUCTS

6 The fact that existing products may have to be replaced (eg all primers will be water-based) has led to rumours that isocyanate-containing products are being banned. This is untrue. On the contrary, the new products will contain a greater concentration of paint particles that require a greater proportion of isocyanate to cure them. Other new products such as ultraviolet-cured materials also contain isocyanates, as do a number of water-based materials.

7 A number of compounds have been, and continue to be, tested as possible isocyanate replacements. But, so far, none have the technical qualities needed. Also, it is likely that substitute compounds will be reactive, small, cross-linking molecules, similar to isocyanate, and are likely to have equally adverse health effects.

8 Isocyanate-based paints are:

- colour stable and retain their appearance
- weather and chip resistant
- easy to apply
- quickly processed; and
- cost-effective.

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<sup>1</sup> The Solvent Emissions Directive 1999/13/EC implemented requirements for the vehicle refinishing sector under the Solvent Emissions (England and Wales) Regulations 2004 SI 2004 No.107, which amended the Pollution, Prevention and Control (England and Wales) Regulations 2000 (PPC) to list vehicle refinishing activities as Part B activities under PPC.

<sup>2</sup> The part of the Solvent Emissions Directive to be repealed is: Solvent Emissions Directive Annex 1; Vehicle refinishing; "*the coating of road vehicles as defined in Directive 70/156/EEC, or part of them, carried out as part of vehicle repair, conservation or decoration outside of manufacturing installations*".

Consequently, they are the product of choice for most MVR bodyshops and are required to be used by most carmakers for warranted repairs.

9 Although isocyanate-based paints are a significant cause of occupational asthma in the motor re-finishing trade, they can be applied safely provided suitable precautions are taken (as outlined in SIM 03/2006/04). They are not being removed from the market, either by voluntary substitution or by marketing and use restrictions.

#### USER INFORMATION ON 2-PACK ISOCYANATE PAINTS

10 Paint users should be given appropriate and accurate safety data sheets (SDS) by the paint supplier, usually the local motor factor. A recent survey of 2-pack paint SDS using the British Coatings Federation (BCF) guidance found that around one-third were inaccurate and misleading. A significant number did not warn the user that the paint contained isocyanate, a known asthmagen, or that uncontrolled exposure could cause occupational asthma. Note that isocyanate may be listed in the coating ingredients as a polymer, such as 'aliphatic polyisocyanate'. It is still isocyanate.

We have taken action through BCF and with individual companies and SDS should now be compliant. If you encounter any that are misleading or inadequate please contact Andrew Garrod (CHSD3 Occupational Hygiene Section) on (VPN 523 4667).

11 Further information can be obtained from Andrew Lake, Manufacturing Sector (VPN 503 4243).

12 Date first issued: 15/08/2006