

# Restriction on Dichloromethane-based Paint Strippers

## Opinion on the position of the United Kingdom

The length and detail of this new position paper of the United Kingdom is a real surprise, because for the RPA Report and its Impact Assessment only “very limited information has been submitted by the UK authorities; this info does not include any information on the UK market “ (see Annex B27.1 on page B-86 in the Final Report Annex-B)

Essentially the United Kingdom now argues on the number of incidents caused by dichloromethane (DCM) based paint strippers and the additional cost industry would be burdened with if a restriction or ban would be implemented.

### Incidents caused by dichloromethane paint strippers

The base of the tables with dichloromethane paint strippers in the RPA report are different publications (Rühl, 6/2003, Farbe & Lack; Rühl und Kluger Handbuch Bau-Chemikalien 2006, Kapitel Entschichten) as well as tables which are published in the Internet (e.g. <http://www.eascr.org/>). These tables – including also incidents before 1989 – are the result of painful enquiries and personal experience of some authors. It is therefore no coincidence when a reasonable number of injured people in the RPA statistic are related to few incidents involving a larger number of people. The press generally reports such cases and they can therefore be picked up.

Official statistics with the claim of completeness do not exist in any EU member state. The fact is that more incidents happened than reported in those tables. In the period from 2001 to 2006 the German Federal Institute for Risk Evaluation for example has reported 76 incidents caused by dichloromethane based paint strippers. This is significantly more than reported in the RPA report for Germany for the same time period.

Especially fatal incidents have to be taken very seriously. The course of action for a typical DCM paint stripper incident is as follows: Caused by the high dichloromethane concentrations the persons concerned feel sick, get dizzy and fall to the ground unconscious (in the past dichloromethane used as anaesthetic). At ground level the dichloromethane concentration is even higher and the incident will end fatal if the person is not moved out of the hazard zone. Each non fatal incident caused by DCM paint strippers is therefore an accidentally prevented fatal one.

In which extent one can tolerate an acceptable number of fatal and non-fatal incidents caused by a chemical as commented by the United Kingdom, everyone needs to judge for himself. The incidents definitely demonstrate that the necessary safety measures for working with dichloromethane paint strippers were not applied, for sure not for the registered cases. This is not a surprise because in the majority of the member states suppliers do not inform about the necessary safety measures and control of such working places is difficult if not impossible.

### Environmental aspects

The cost compilation surprises with the conclusion that it is considered as a burden to industry when recycled DCM can no longer intentionally be released via paint strippers into the industry. Is it really the task of paint strippers to resolve waste-handling issues with a chlorinated compound for the pharmaceutical industry? It is more than doubtful that paint stripping is the only end-use for a recycled chlorinated solvent!

In Germany waste-handling of the paint stripped coating material is significantly more expensive when it contains chlorinated hydrocarbons. One would assume that similar regulations should exist in other member states as well. These additional costs have to be taken into consideration when working with DCM paint strippers.

### **Cost for safety measures**

We can follow the argumentation of the United Kingdom only partially. When we refer to their numbers in the following it doesn't mean that we accept them. It would have been better if their numbers would have been made available for the RPA Report.

In all EU member states, from which data are published, exposure concentrations are so high when working with DCM paint strippers the breathing protection has to be worn. Because of its low boiling point of dichloromethane respirator filters are ineffective and self-contained respirators have to be used (Rühl R, Höber, D, Bredendiek-Kämper, S: European measurements confirm high exposure during paint stripping. Gefahrstoffe – Reinhaltung der Luft 64, 2004, 467-470). The cost for such breathing protection equipment is in the range of € 3.000 Euro. Every decorator enterprise working with DCM paint strippers has to have at least one exemplar.

If one assumes that in the UK a typical decorator enterprise has approximately 10 employees (what is even a conservatively high number because in other member states the average lies between 5-7 employees), 147.000 decorators and restorators would work in 15.000 enterprises, which would all need such a breathing protection equipment (total investment cost: € 45 million).

#### How many enterprises in the UK do have such a protection equipment?

In Germany we could not name a single one.

Additionally such equipment has to be made available for every consumer.

And finally there has to be at least one additional person at a construction place, where DCM paint strippers are applied, in order to supervise the use of self-contained respirators.

Fluoro-caoutchouc gloves are the only ones offering a certain protection against dichloromethane and are sufficiently resistant to mechanical forces on construction places. But even fluoro-caoutchouc gloves (cost of approximately € 50,- a pair) have to be replaced after 150 minutes latest when working with dichloromethane-based paint strippers because dichloromethane will have broken through into the glove after this period. In a shift of eight hours a minimum of 3 pairs of fluoro-caoutchouc gloves are needed per employee. But in no member state relevant numbers of such gloves are sold to enterprises or consumers in relation to be possibly related to the regional use of DCM paint strippers.

The statement of the United Kingdom "in the vast majority of cases and for most Member States, professional and consumer users are adequately managing the risks and the products are being used safely" is therefore not in line with the daily practice but plays down the real situation.

When working with dichloromethane-free paint strippers only in very unfavorable conditions, breathing equipment is necessary and nitrilrubber gloves are sufficient and will last for the whole shift. Nitrilrubber gloves are available for approximately € 3,- what is only 2% of the cost for hand-protection when working with DCM.

The cost for gloves alone are therefore drastically higher for DCM paint strippers versus those of DCM-free ones. On top one has to consider the additional cost for breathing protection and the additional person for supervision at a construction place if one would seriously try to compare cost between DCM and DCM-free paint strippers.

### Licensing system

The cost for a licensing system will be certainly considerably high, and it will be difficult to apply. Therefore we do not support such a procedure.

Sale of DCM paint strippers against presentation of confirmation for the availability of the necessary self-contained respirator by a professional user we consider as a more practical alternative. This would create minor administrative cost and reduce the number of professional user to only those being in possession of the necessary personal protective equipment (PPE).

### Adaption cost to produce DCM-free paint strippers

The cost for adapting plants and equipments, R&D, formulation and marketing, as brought forward by UK will probably not materialize because the majority of the UK producers already offer DCM and DCM-free paint strippers as for example:

DCM paint stripper producer	Non-DCM paint stripper	source
Polycell	Polycell Advanced Polycell Less Mess (new)	<a href="http://www.diytools.co.uk/diy/Main/sp-2-10191-82406-polycell-less-mess-paint-stripper-500">http://www.diytools.co.uk/diy/Main/sp-2-10191-82406-polycell-less-mess-paint-stripper-500</a>
Henkel UK	Nitromors Sure Strip Nitromors Superstrip Nitromors Graffiti Remover Nitromors Biodegradable Texture Remover Nitromors All Strip Mousse TURCO product line	<a href="http://www.henkel-technical-services.co.uk">http://www.henkel-technical-services.co.uk</a>  <a href="http://www.henkel-cee.com/cps/rde/xchg/henkel_cee/hs.xsl/2707_COE_HTML.htm?countryCode=com&amp;BU=...DotUID=00000002MV">http://www.henkel- cee.com/cps/rde/xchg/henkel_cee/hs.xsl/2707_COE_HTML.htm?countryCode=com&amp;BU=... DotUID=00000002MV</a>
Palace Chemical	Peel Away Safer Stripper	<a href="http://www.palacechemicals.co.uk/Strippers.htm">http://www.palacechemicals.co.uk/Strippers.htm</a>
Strippers Paint Removers	Product 4-F Kling Strip	<a href="http://www.stripperspaintremovers.com/product_chart.htm">http://www.stripperspaintremovers.com/product_chart.htm</a>
ICI	Dulux HydroStrip 1003	<a href="http://www.icipaints.co.uk/products/info/dulux_trade_hydrostrip_1003.jsp">http://www.icipaints.co.uk/products/info/dulux_trade_hydrostrip_1003.jsp</a>
Chemicals Ltd.	Paramose	<a href="http://www.paramose.com/pv.html">http://www.paramose.com/pv.html</a>

### DCM-free paint stripper work more effectively

Paint strippers without DCM work often a bit slower. Especially because they stay longer effective on the coating surface they can dissolve several coating layers in one step and work therefore more effectively than DCM paint strippers.

This offers cost advantages. DCM paint strippers are very volatile and have to be applied several times to remove several coating layers, what will request of course more labour time and cost. Because DCM paint strippers have to be applied several times to remove thick coating layers the required paint stripper quantity is significantly higher than for DCM-free paint removers.

Today DCM free paint strippers are available for small coating areas with only up to 2 coating layers which offer similar stripping speed and effectiveness as DCM.

### Summary

In general we strongly subject to participate in speculation on numbers of incidents. Every incident is one too much!.

DCM free paint strippers, which are safer and more cost effective under consideration of all cost aspects are available on the market.

Therefore DCM paint strippers should be restricted.

Dr. Reinhold Rühl, BG BAU  
Frankfurt, 25. August 2008