

Social Development Committee of the South Australian Parliament
Parliament House
North Terrace
S.A. 5000

December 1, 2003

SUBMISSION FOR INQUIRY INTO MULTIPLE CHEMICAL SENSITIVITY

I Philip J. Holgate, Chartered Chemist of 2 Brooks Circuit, Woodcroft, South Australia, 5160, hereby make submission of evidence to the Parliamentary Committee of Inquiry into Multiple Chemical Sensitivity Syndrome.

My evidence relates to the effect of Floor Paints and Coatings on Safety, Health and Welfare of users of such products, as this is my field of professional expertise.

It is my opinion that members of the public as well as users of solvent / isocyanate polyurethane floor coatings are being made more susceptible to chemical initiators of MCS because of the use of this class of materials (which are banned or use restricted in many overseas countries).

It is to be expected that a response from the solventborne coatings industry will be highly critical of my submission. I was a key player in the solvents coating industry in a senior technical level for many years.

I look forward to participating in objective debate on this submission.

Qualifications

- Professional Industrial Chemist of 30+ years experience in surface coatings
- Author of various industry publications on health effects of paints and coatings
- Former Senior Chemist and Technology Manager with major coatings manufacturers who produce toxic solvent / isocyanate based surface coatings.
- 15 years working with Isocyanates as an Industrial Chemist
- Extensively travelled to technology centres overseas
- For 5 years now has operated Australia's only non-solventborne-only timber floor coatings company, which is, now Australia's principal manufacturer and supplier of non-toxic Polyurethanes to the Floorsanding trade in Australia. Also a significant exporter to Europe where tough environmental legislation has assisted entry of our Enviropro non-toxic coatings.
- Extensive chemical health experience and provision of information service to trade users of coatings, consumers and educational institutions.

Inquiry Submissions Relating To MCS

Refer to detail discussion in later section

- 1 Linkage of MCS and other medical conditions from solvents exposure.
- 2 Inadequate and often misleading and incorrect health and safety labelling information on solventborne floor coatings with high potential for MCS susceptible person exposure, either from use or later entry into premises having used such products.
- 3 Incorrect U.N. number classifications on 2 pack isocyanate polyurethane component.
- 4 The Do It Yourself industry that hires Floorsanding machinery and supplies toxic solventborne isocyanate containing coatings puts the public at risk without advice of the harm potential of use of these products without appropriate respiratory protection.
- 5 The Floorsanding and Finishing trade in Australia uses a higher percentage of toxic solventborne polyurethane than in any other developed country. The trade products they use have labelling that usually does not make clear the fact that forced air full face respirators must be used where Toluene Diisocyanate -TDI - is present in the coatings. TDI is present in all Australian produced one and two pack solventborne Polyurethanes. Most of the trade do not wear a respirator at all and breathe in copious quantities of toxins. Some of these are linked to MCS.
- 6 Out-gassing of solvent borne coatings has been claimed for up to 5 years in an extreme MCS case in S.A. One other case is 6 months. Manufacturers of solventborne coatings re out-gassing potential of products are giving incorrect information to the public.

Outcomes desired from Inquiry

Basically, truth in product labelling re health information to allow the consumer to make more informed decisions re use of certain products.

1. That product labelling be precise if carcinogens are present in the paint or coating by identifying them, and also other component chemical materials that may be sensitizers or potentially harmful. (Eg TDI is a class 2 carcinogen and potent respiratory sensitizer).
2. That product labelling make it very unambiguous as to whether personal protective equipment should be worn to prevent chemical material inhalation, and also be very specific as to what that protective equipment should be.
3. That product labelling not simply state 'avoid inhaling vapours', but more so what actual damage to the human body can possibly occur should exposure occur (as is done in certain overseas countries. Again to allow for a more informed decision by product users.

Discussion

1 Labelling Inadequacies.

1.1 Exposure Harm Severity Potential

A U.S.A. paint can label (which the writer has in his possession) that contains, Toluene, Xylene and Hydrocarbons, states as a warning to consumers:

“WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive problems.

“WARNING: Reports have associated repeated and prolonged occupational over-exposure to solvents with permanent brain damage, nervous system and other internal organ damage.

Labelling per Federal Hazardous Substances Act, USA

Australian product containing similar solvent components simply states ‘avoid inhaling vapours’.

This latter typical statement on Australian solventborne isocyanate Polyurethane floor coatings gives no indication of the ‘harm **potential**’

Our consumers have the right to know the medical condition linkage with exposure to component materials in the paints and coatings. Certainly MCS is a condition linked to Xylene exposure. Xylene is the principal solvent in most solventborne polyurethane floor coatings

1.2 Implication of lower harm potential and misleading statement

Another deliberate attempt by Australian producers of solvent floor coatings is to imply a level of safety or lesser exposure severity by including statements such as ‘use in well ventilated atmosphere’.

All manufacturers also encourage applying the timber floor coatings in a draft free environment to avoid dust particles in the finished coatings.

‘Well ventilated’, by definition provided by industrial ventilation specialist, is 17 complete exchanges of air per hour.

This is impossible to occur in the coating of a floor in a building, especially when one closes the place up to avoid dust in the surface finish should windows and doors be open.

1.3 UN Number for the Isocyanate component of 2 pack Polyurethanes

The correct United Nation number classification is ‘Isocyanate Mixtures’. This also requires large “Poison’ and ‘Skull and Crossbones’ labelling of containers.

All Australian manufacturers of this high Toluene Diisocyanate containing part B of the 2 pack Polyurethane now use UN 1263 classification ‘Paint Materials’ because it does not require the poison and skull and cross bone labelling that might cause concern with consumers re the higher toxicity perception.

The correct UN Number classification and labelling should be reviewed and if change is required it should be mandated.

1.4 Use of Respiratory Protection

Most labelling makes reference to no protection needed if solvent coatings are used in well-ventilated areas.

As they are never used in well ventilated areas (a tradesperson will close all doors and windows and even tape up draft entry points to minimise dust on the final Polyurethane coat) personal protection via a respirator is essential for avoiding inhalation of the toxins.

Labelling in Australia may make reference to an Australian Standard and will sometimes quote a negative pressure cartridge respirator.

To the tradesperson and particularly the home handy person, the Australian Standard means very little. The Standard is quite inaccessible to these persons and even if accessible requires interpretation by more learned persons.

All major manufacturers of solvent / isocyanate coatings MSDS's, along with every manufacturer of protective breathing equipment, now acknowledge that for Toluene Diisocyanate containing coatings (all Australian manufactured one and two pack aromatic Polyurethanes contain this TDI), full face, forced air respirators must be worn!

Unfortunately this important safety instruction is confused with references to Australian Standards.

Some misinformed trades persons actually use negative pressure cartridge respirators as this has been past advice, now obviously superceded by later knowledge.

What they are not aware of is the fact that:

- Major manufacturers now acknowledge that the negative pressure cartridge respirators are unsuitable for Toluene Diisocyanate protection.
- The cartridge manufacturers have been saying for many years that these cartridge types are unsuitable for isocyanate
- The cartridge manufacturers also state that while they will work for solvents, that the cartridges should be discarded daily because of short useful life and desorption issues

Additionally, the message re the required health protection is simply not getting through to most product users despite:

- Floorsanding Trade Associations being aware of the manufacturer MSDS stipulations.
- The vast majority of employing Floorsanding businesses represented on Trade peak bodies do themselves not enforce the personal breathing protection, nor make their employees aware of the official (Manufacturer and Australian Standard) requirement.
- Coatings manufacturer representatives are often seen on site with solventborne coatings users who are not wearing any, or the wrong type, of respiratory protection, and say nothing to the solvent product user for fear of causing customer concern.
- There is a 'shoot the messenger' mentality in trade organizations and employing floorsanders, re not wanting to 'scare off' solventborne product users by telling them what really is their legal Duty Of Care re avoiding bodily harm by the taking of simple precautions, or even simpler, the use of alternative products that are

classified as inhalation non-toxic and do not require the use of any respiratory protection.

All Floorsanding Trade Associations and major trade employers are well aware of the upgraded coatings manufacturers MSDS requirements.

What is required is a simple clear and unambiguous statement on all labelling stating that full face, forced air respirators must be worn when using solvent / TDI based products as this is the coatings manufacturer MSDS, every personal protective equipment supplier's recommendation and also Australian Standard, advice for these products.

Additionally, an education campaign is required to make it clear to employers and others as to what Duty Of Care and Professional Negligence really means.

In particular the deliberate withholding of information that might have prevented an assignable injury and the legal consequences of such action.

2 The "Do It Yourself" industry

The D.I.Y market is rapidly increasing with more home owners sanding and finishing their own floors.

Most of the equipment hire companies rarely mention the exposure hazards of either wood dust or solvent and isocyanate fumes on potential sensitisation.

Likewise many hardware locations (and also the equipment hire companies) that sell Polyurethane coatings for the home handyperson to use, do not draw attention to the personal protection requirements of the products they might be using and the hazards they might be exposed to.

Many do not have MSDS for the products they sell available upon request.

Some DIY suppliers sell low sensitisation potential waterborne Polyurethane products but many still supply the toxic solventbornes.

With waterborne Polyurethanes now being just as durable and massively less toxic sensitisation potential compared to the Xylene based isocyanate Polyurethanes, either the DIY suppliers be compelled through Duty Of Care to advise users of solvent products of the MSDS requirements for personal protection, or sell only low toxicity alternatives as is the case in many overseas countries.

3 Out-gassing and MCS

Out-gassing is the slow release of volatile substances from paints and coatings over time. Manufacturers of solventborne coatings generally advise that one should avoid entry to the premises after solvent Polyurethanes have been used for 1 to 3 days.

Other advise is that solvent out-gassing can occur any where from 2 weeks to 12 months.

Two cases of MCS sufferers in S.A. who had their floors coated in solventborne Polyurethanes claim that in one case 6 months and the other 5 years expired and they still had MCS symptoms from presumed out-gassing.

Quite simply, if one can still smell the solvents in a premises after a floor has been coated, then out-gassing is continuing at above the odour threshold level. This may be the case for many weeks after a floor has been coated depending on the absorbency of the timber, what products were used and how they were applied.

What is a safe level for chemically sensitive persons has not been established as it can vary appreciably from individual to individual.

Some Asthma and MCS sufferers are often triggered by chemical levels well below odour thresholds based on the sensitisation level they have.

Risk minimisation is what is sought.

As all manufacturers produce lower toxicity potential alternative technologies, that they place a warning on the solventborne Polyurethanes to use waterborne products if they consider themselves at risk from Asthma or MCS, or if they feel such a sufferer might enter the premises within some weeks after the floor has been coated should a solventborne product be used.

References

New Zealand Government Ministerial Inquiry into Management of Certain Hazardous Substances in Workplaces. July 4, 2003. Report from Denis Clifford to Hon. Margaret Wilson, Minister of Labour.

Multiple Chemical sensitivity – The End of Controversy. Martin Pall, School of Molecular Biosciences, Washington State University,
http://www.biochem.wsu.edu/Faculty/pall/pall_mcs.htm

Chronic Toxic Encephalopathy – Dr. Anneke Niewe Werne, Unie Occupational Health and safety Centre, Netherlands

Kreutzer R, Neutra RR, Lashuay N, Prevalence of People Reporting Sensitivities to Chemicals in a Population Based Survey, American Journal of Epidemiology 199,150(1):1-12

Solvent Hazards in Buildings. The Daily Hazard – N0 54, March 1997.

The Environment and Multiple Chemical Sensitivity. Nova Scotia Environmental Health Centre, Dalhousie University, Nova Scotia.

Multiple Chemical Sensitivity.

http://www.geocities.com/brendamcs/What_is_MCS.html

Multiple Chemical Sensitivity. Australian Chemical Trauma Alliance Inc.

<http://members.ozemail.com.au/~actall/MCS.htm>

MCS – A Medical Perspective. Dr. Mark Donohoe
<http://members.ozemail.com.au/~actall/A%20Medical%20Perspective.htm>

Use of Scientific and Medical Information by the Courts. Environmental Research Institute.
http://www.esri.org/courts/use_of_info.html

MCS Report. Multiple Chemical Sensitivities Task Force of New Mexico, 30 Jan 01.
<http://www.mindfully.org/Health/MCS-Under-Seige.htm>

Donnay A. Multiple Chemical Sensitivity Referrals and Resources.
www.mcsrr.org

Directive of the European Parliament on the Limitation of Emissions form Volatile Organic Compounds. 23.12.2002

Sincerely

Philip J. Holgate MRACI Ch Chem
2 Brooks Circuit
Woodcroft
SA 5162

Ph 08 8326 0092

Email enviropro@aswc.com.au

FILE Multiple Chemical Sensitivity Syndrome Enquiry