

Control Banding – Practical Tools for Controlling Exposure to Chemicals by Heather Jackson, IOHA*

Article originally published in the Asian-Pacific Newsletter on Occupational Health and Safety 2002;
9:62-63.

Growth in the use of chemicals in small and medium sized businesses (SME's) and in emerging economies, where access to people with the experience to assess and control exposure to chemicals is limited, has led to the development of a new approach to the control of chemicals. Called Control Banding, the approach uses information that is readily available to users from the suppliers of chemicals taking the users through a series of simple steps allowing them to choose practical control solutions that should reduce exposures to levels which present no danger to health. (1)

Control Banding and COSHH Essentials

Much of the recent work on Control Banding derives from the COSHH Essentials package developed by the UK Health and Safety Executive (UK HSE). Designed to assist SME's in complying with the UK chemical safety regulations – the Control of Substances Hazardous to Health (COSHH), the scheme uses the R phrases that in Europe must be assigned to potentially harmful chemicals by the manufacturer of the chemical. R phrases describe the most important harmful effects of a chemical and have been adopted in many non European countries also. These phrases have been grouped by experienced toxicologists into hazard groups. The user finds the R phrases for the chemical using the label or Material Safety Data Sheet supplied by the chemical supplier and looks for the R phrases in the list of hazard groups. The hazard group for the chemical is thus selected using toxicological expertise without the need for an expert on site.

Once a chemical has been assigned to a particular hazard group it is necessary to consider the exposure potential in the workplace being assessed. The combination of the hazard classification of the chemical and assessment of the exposure potential will allow understanding of the level of risk thus leading the person carrying out the assessment to an appropriate control method. Occupational hygienists with experience of assessing work place exposure to chemicals agreed parameters that could be used to give reasonable indications of exposure potential. One of these is quantity being used – and 3 categories, small medium and large are defined. The likelihood of the chemical becoming airborne has been addressed by defining solids according to levels of dustiness and liquids according to volatility. A simple graph that uses the boiling point of the chemical and the process operating temperature assigns the chemical a high, medium or low volatility rating.

The user now has enough information to identify the control approach required to adequately reduce exposures to the chemical. Occupational hygienists agreed on 3 broad control approaches :- General Ventilation; Engineering Control; Containment. However it is recognised that in some cases specialist advice will be needed and this is control option 4. The user takes the hazard group, quantity and level of dustiness/volatility and matches them to a control approach using a simple table. The controls are described in control guidance sheets, which comprise both general information and, for commonly performed tasks, more specific advice.

While there will always be circumstances where specialist advice should be sought and where the controls selected will not be as protective as would be ideal, this approach allows businesses without ready access to specialist advice to effectively reduce the exposures of its employees to the chemicals used. Where the control recommendation is for the business to seek specialist advice the information already gathered doing the assessment will in some instances help the employer to know what sort of assistance to look for.

A recent development of COSHH Essentials by UK HSE has been to adapt it for the internet. Electronic COSHH Essentials is free for anyone to use by logging onto www.coshh-essentials.org. It is an interactive package that takes the paper based version even further. By inserting the required information into the fields provided, the package itself consults the tables and assigns the hazard ratings and suggested control options.

International Application – The ILO Toolkit

Several countries are developing tools based on the control banding technique, and the International Labour Organization, (ILO), World Health Organization (WHO) International Occupational Hygiene Association (IOHA) and the United Kingdom Health and Safety Executive (UK HSE) are working together to develop a control banding toolkit which will have international application. To further the work on this, a workshop on control banding was held in London, England 4th-5th November 2002. This workshop was organised by the British Occupational Hygiene Society, British Institute of Occupational Hygienists and the UK HSE, supported by IOHA, WHO and ILO.

Further information:

IOHA website www.ioha.com

ILO will shortly be posted information on control banding, including the ILO Toolkit on its website at

<http://www.ilo.org/public/english/protection/safework/chemsfty/index.htm>

References

1. Oldershaw PJ. Control Banding – A practical approach to judging control methods for chemicals; Journal of Preventive Medicine 2001;9(4):52-58
2. UK Health and Safety Executive. COSHH Essentials – Easy steps to control chemicals.

Heather Jackson

President Elect of IOHA (International Occupational Hygiene Association),
and Occupational Hygienist,

Lyondell Chemical Europe

Lyondell House, Bridge Avenue,

Maidenhead, SL6 1YP, UK

E-mail: heather.jackson@lyondell.com

International Labour Organization (ILO)
International Programme on Chemical Safety (IPCS)
World Health Organization (WHO)

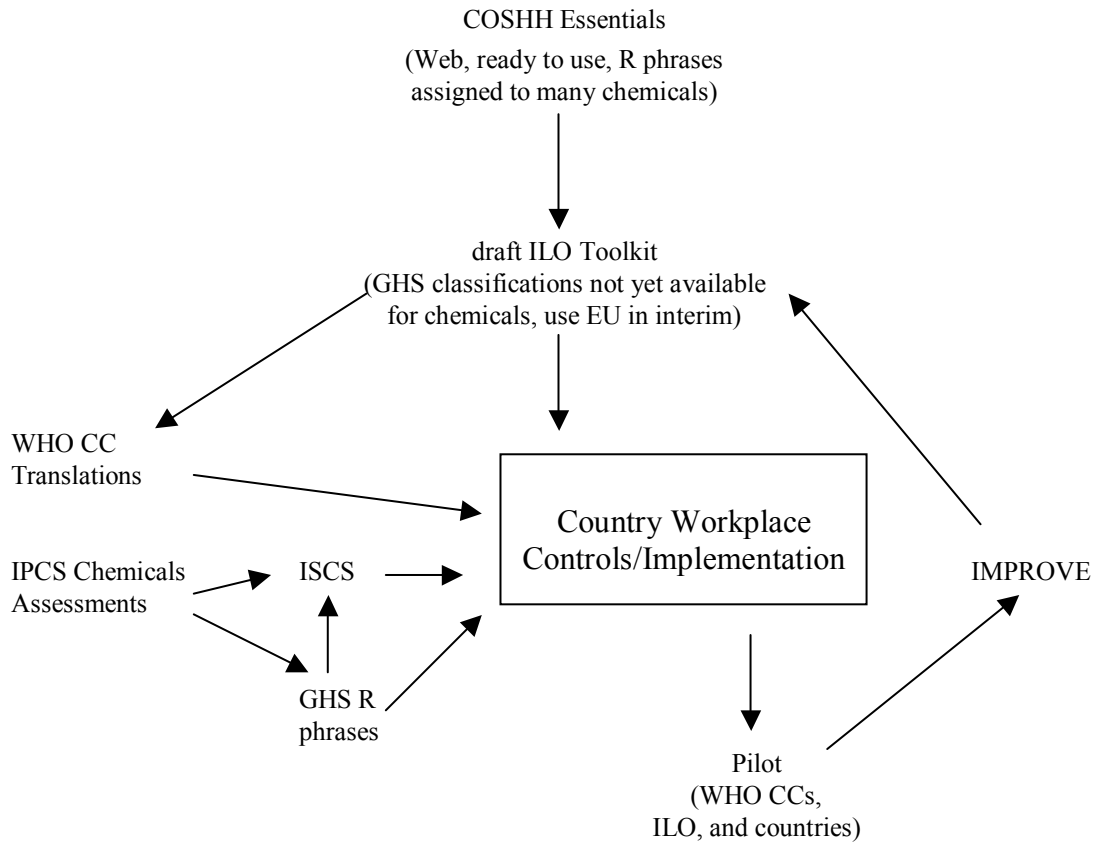
IPCS (WHO, ILO) COOPERATION ON CONTROL BANDING
23 January 2003

ILO and WHO will work together on Control Banding, primarily under the IPCS banner. Details are provided in the attached diagram and below:

- WHO (Programme on Chemical Safety (PCS)) will provide a coordination point (for example calling meetings between WHO and ILO officers on a regular basis to follow-up work)
- WHO (PCS) will contribute primarily in the technical areas relating to linking to the work on chemical assessment. This would include flow from IPCS chemical assessments to the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS), links to the IPCS International Chemical Safety Cards (ICSCs), etc.. The timing of this work will need to be relevant to the implementation process for the GHS. In the intervening period, the ILO toolkit will be using the European Union (EU) phrases.
- WHO (Occupational and Environmental Health (OEH)) and ILO will contribute primarily in piloting and implementation.
 - Eg, WHO will work through its network of occupational health Collaborating Centres in the translation and piloting work (via Marilyn Fingerhut based in the United States at the National Institute for Occupational Safety and Health (NIOSH)).
 - Eg, ILO will maintain the electronic resources, including a webpage on Control Banding containing the ILO toolkit etc, and trialling through some inspectorates/other piloting work as appropriate.
- WHO and ILO will continue to identify international/regional events where Control Banding can be discussed and promoted. The next events identified are: International Commission on Occupational Health Conference in Iguacu Falls and the ILO-International Association of Labour Inspection Workshop in the Dominican Republic (both early 2003).

Primary contacts: Pavan Baichoo (ILO) email: baichoo@ilo.org
Marilyn Fingerhut (WHO, for OEH, based at NIOSH)
email: mfingerhutcdc.org
Carolyn Vickers (WHO, PCS) email: vickersc@who.int

**IPCS (WHO, ILO) COOPERATION ON
CONTROL BANDING**



HSE
IOHA  Partners in global work

CC = WHO Collaborating Centres
HSE = UK Health and Safety Executive
IOHA = International Occupational Hygiene Association