By Andrew R. Bourne, Hayley J. Clayton, Ph.D., Leslie S. MacDougall - The Acta Group

costs for retail and consumer products

Transport operations involving chemicals are heavily regulated. This is true for small scale manufacturers with single sites, large scale global distributors utilising multiple sites, and external third party freight forwarders. Each must comply with appropriate labelling of goods for transport and import inspections, and regulatory requirements pertinent to their products. While the adoption of the Globally Harmonised System for **Classification and Labelling of Chemicals** (GHS) by the United States (U.S.) brings chemical labelling one step closer to achieving a global standard, there are still many non-standardised labelling nuances and idiosyncrasies alive and well in different jurisdictions. As developing compliant labels is costly, avoiding label errors occasioned by variances in the GHS adoption between countries and regions is essential. Labelling issues can also arise through transport and GHS overlaps of specific hazards.

Many of the world's largest chemical producing and consuming nations have now adopted GHS for chemical labelling (U.S., European Union (EU), China, Korea, and many others), and the United Nations (UN) "orange book" for chemical transport, facilitating ease of chemical movement between countries. Minor variations between these adoptions make detailed reviews of labels essential for setting a unified labelling strategy. A common issue for transport classification is the duplication of pictograms to represent hazards. The general rule of thumb is to replace any GHS pictograms with transport pictograms, where hazards are classified. Shipments are often stopped within the EU where GHS pictograms are presented on transport packaging, instead of the required transport symbols. "Limited Quantities" (LQ) shipping has been standardised between all modes of transport since January 2011; this is a good example of how standardisation can speed up and reduce the cost of chemical shipping operations.

Countries and regions subscribing to the UN transport regulations have provisions for LQ shipping, although previously the implementation of these provisions varied between the different modes of transport. LQ refers to small receptacles, typically



those that go into retail distribution chains, packed in boxes or on shrink wrapped trays. The European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) has undergone a number of changes relating to the LQ provision as highlighted within both the 2009 and 2011 editions. Specific measures, detailed in ADR, Chapter 3.4, 1 January 2011, for dangerous goods packed in LQ (other than those assigned figure "0" in column (7a) of Table A of Chapter 3.2) may continue to be carried until 30 June 2015. The new provisions which standardise LQ shipping may be applied from 1 January 2011. Similar changes in The International Maritime Dangerous Goods (IMDG) Code and International Air Transportation Association (IATA) code for air transport were developed as uniform international codes for the transport of dangerous goods, required from January 2012 (voluntary from 1 January 2011) and 1 January 2011, respectively. While there is still much transition work to be done before the June 2015 sunset date, this standardises the LQ shipping and facilitates shipping of smaller quantity packages, such as for the

retail market. Changes to be considered include packaging requirements post-2015 and day-to-day functionality, including updates to internal databases and systems used in producing transport documentation and labels.

Most GHS adoptions will complete implementation by 2015, mandating that all mixtures must be classified according to the particular legislation of that jurisdiction. Although some variation will remain between labelling information and hazard category adoption, this greatly simplifies the process of classification and labelling for retail and consumer products. This level of harmonisation, together with the standardisation of transport labels, offers the promise of greatly simplifying and reducing the cost of label creation.

The Acta Group, a scientific and regulatory consulting firm with offices in England, China and the United States, provides strategic, comprehensive support for global chemical registration, regulation, and sustained compliance.

www.actagroup.com