

Lifecycle compliance 1.01

EH&S Complex regulation makes complete compliance an increasingly difficult task but, says Prabhu Natarajan* of 3E Company, a lifecycle approach using available tools can ensure companies meet their responsibilities to properly manage the risks associated with their products

With regulations increasing in number, scope, and complexity, managing the information associated with environmental health and safety (EH&S) compliance has become a complex, time-consuming, resource-draining and often expensive task. Environmental compliance requirements often dwarf those of Sarbanes-Oxley Act (SOX) in their breadth and sheer complexity. Because of the complexity of the requirements – and because of the financial and human cost of non-compliance – more and more companies are shifting their focus from Sarbanes-Oxley compliance to EH&S compliance.

Recent incidents involving hazardous materials and security have also resulted in the US Department of Transportation (DOT) and Federal Aviation Administration (FAA) increasing their regulation of the packaging, shipping and handling of hazardous materials. The Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) also enforce cross-industry regulations related to hazardous materials. There is clearly a strong trend toward expanding and strictly enforcing environmental regulations.

While in the past EH&S compliance performance management or enterprise risk management programmes have been geared toward delivering continuous improvement in performance and/or reducing risk, we now notice that companies that want to deliver sustainable ongoing improvements in compliance and in risk associated with handling chemicals are better served by taking a full-lifecycle approach to understanding and managing chemical product compliance.

Traditionally, although companies have been aware of compliance and risks associated with various activities throughout the chemical lifecycle, the management of such issues has been handled in compartments or silos within the organisation. For example, how do you make chemists involved in product development aware of the impact of transport regulations on the chemistry of their new product? However, with the advent and adoption of enterprise resource planning (ERP) systems and the power of the internet in facilitating efficient knowledge exchange it is now possible to gain cross-functional views on compliance and risk activities. Companies that take advantage of such tools

and solutions gain a competitive advantage.

Further, the advent of the global economy introduces a number of new variables into the compliance and risk equation, and often those variables may not be under the direct control of the company. The cost of non-compliance or excessive risk is no longer limited to fines and penalties nor does it only impact the affected employees. Increasingly, compliance and risk are associated with brand, image and, in the end, customer loyalty.

Breaking down a complex undertaking

As a global compliance or risk professional or a business leader charged with corporate leadership in this area, how do you go about getting your arms around this? We suggest looking at three distinct levers – regulatory content and information, compliance tasks and activities, and technology applications and platforms. How are you currently managing regulatory content and information across the product lifecycle? What are the activities, tasks and controls you have in place to manage compliance and risks associated with the product you purchase, produce and dispose? Have you maximised the use of platforms, applications, and automation tools to help you both do compliance related tasks and also keep you

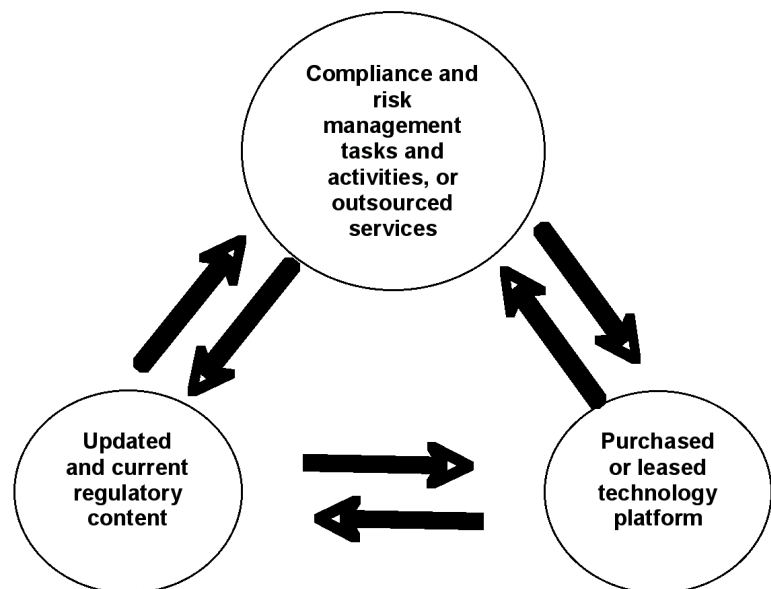
informed on how you are tracking against a plan?

Lastly, as you develop a plan around these levers have you looked objectively at what functions are required to be managed in-house, and which functions can be outsourced.

Now that you have key levers identified for compliance performance improvement and risk management, how do you go about applying it in a business of any size and complexity? We suggest you look at your business from a chemical lifecycle vantage point to understand what levers are appropriate to the particular activities associated with that stage in the lifecycle.

Applying the levers to the lifecycle

1. Research and development (R&D) and formulation laboratories perhaps can make the biggest impact in making progress toward going green, and yet they probably get the least attention from a compliance or risk professional. Scientists and engineers working in R&D can be made aware of global regulatory requirements and chemical characteristics (e.g. toxicological or ecotoxicological data) through commercial data aggregators. The challenge here is to identify companies that provide more than just a compilation of regulatory text. The opportunity is to look for data and information providers who are known for distilling regulatory information in to



normalised content that can be integrated into platforms and tools. Generating and maintaining such data in-house can be highly inefficient.

Typical tools and applications can include Laboratory Information Management Systems, Formulation Systems and Recipe Management Systems. Access to Safety Data Sheet (SDS) authoring systems may also be required to create and review draft SDS for the formulations that are contemplated.

Some key challenges in managing compliance and risk tasks in this phase include having appropriate chemical sourcing practices, chemicals and samples inventory management, employee training in proper handling and disposal, providing sufficient guidance to employees around the clock in the event of an incident, and the management of safety data sheets for the sourced materials. Often the sheer volume of chemicals and sample materials involved in this phase can make this very challenging, administrative and non-value added.

2. Manufacturing Compliance performance improvement and risk management in the manufacturing phase of the chemical lifecycle involves a myriad of variables. This discussion will focus on activities related to the product lifecycle, recognising that other key measures include process safety, employee safety and workplace safety requirements. Chemical manufacturers are also chemical (raw material) users. The foregoing discussion on the importance of regulatory content equally applies to the manufacturing function. Additional critical content requirements in this phase include product marketability requirements.

Key enabling technology platforms and applications include SDS authoring, SDS distribution, chemical inventory management and the associated SDS management, and regulatory reporting.

A variety of compliance tasks and activities are required for product-related compliance performance improvement. These include: accurate and regularly updated inventory of chemicals, training for employees on proper handling, communication of product information to other stakeholders, regulatory reporting to local, state and federal agencies on chemical related activities, proper preparation of materials for safe transport, appropriate measures for waste management and waste minimisation. Other tasks include providing support for emergencies involving their products on a 24/7 basis to their stakeholders, and also responding to workplace emergencies involving chemicals used or manufactured.

3. Distribution Distribution-related compliance activities can vary widely depending on the activities undertaken by the distributor. Non-asset based distributors are faced with much less complexity when compared with asset owning distrib-

utors. Further, the scope of functions performed – ranging from formulation, blending, to re-branding - also has an impact on compliance and risk.

Product marketability and transport regulatory content are critical for distribution companies. Technology application enablers include chemical inventory management and associated SDS management and distribution, SDS authoring (e.g. for formulators) and regulatory reporting. Key compliance tasks and activities include the foregoing discussion for the manufacturers. To the extent that distributors are also importers of chemicals these companies would have responsibilities associated with registrations of products with the appropriate governing bodies in the countries where they are imported to.

4. Transport With global supply chains and just-in-time inventory management being the reality of the day, any compliance-related friction or disruption in the supply chain can be very expensive. The compliance and risk responsibilities may vary depending on the role of the company in the supply chain. Companies that perform the role of the shipper typically have responsibilities to ensure that the product has been prepared for transport in compliance with national and international regulations. Other key roles in the supply chain include transporters and operators of transfer and storage facilities. This discussion will focus on responsibilities typically associated with the shipper.

Transport regulatory content is a key enabler to ensure all supply chain management systems can be populated with the most current regulatory data for global transport. Opportunities in technology applications and platforms include automation/pre-population of the transport document, packaging labels and emergency response information. Significant compliance tasks include the training of employees on the various facets of preparing the shipment for transport by different modes, classification of the products for transport, package selection and tasks associated with enabling the specific shipment such as documentation, marking, labelling, and placarding. Further, shippers have to respond at any time to transport-related incidents and emergencies and provide access to SDS.

5. Usage For the purpose of this discussion, usage includes chemicals used in the workplace and the retailing and selling of regulated products containing chemicals directly to consumers. Challenges here include high turnover of employees in the retail sector dealing with products containing regulated chemicals.

Access to regulatory content at the local level is important because many local agencies have jurisdiction over chemical storage, dispensing and handling. Other regulatory content includes information on limitations on selling certain

products containing restricted ingredients to customers who can present appropriate identification. Technology and other application platforms can be used to provide immediate access to SDSs to employees who may come in to contact with chemicals in the workplace, establish a formal process to review and approve chemicals before they can be added to the workplace, and manage permits and disclosures associated with chemical handling.

Important tasks and activities include chemical approval management, maintaining and updating current SDSs, filing and managing regulatory permits and disclosures, and training for employees on the safe handling of chemicals. Companies also have to be prepared around the clock to handle workplace incidents and emergencies that involve chemical spills and accidents.

6. Disposal Regulatory content includes a knowledge of waste streams, waste codes and information relevant to waste classification and documentation. Key platform and application enablers include tools to manage the accumulation, tracking, disposal and reporting of waste. Automation opportunities exist in preparing waste documentation, markings and labels. Tasks and activities associated with compliance performance improvement and risk management include training for employees responsible for waste and disposal management, site management for proper accumulation, storage and transport, classification/profiling of waste streams and products, working with pre-qualified waste haulers and disposal companies, and working upstream with R&D and manufacturing to support waste minimisation.

The big picture

A comprehensive view of compliance performance and risk management throughout the chemical lifecycle is important to deliver and sustain ongoing EH&S improvement. To enable product compliance key levers include global regulatory content and information, technology platforms and applications, and activities and tasks associated with delivering compliance. Typically, current and accurate global regulatory content is most efficiently obtained from a reputable vendor. While technology platforms and applications may be developed in-house, there are a variety of solutions that are already available in the marketplace that can be readily purchased or leased. Evaluate the compliance tasks and activities closely to discern which activities are best managed in-house and what activities can be most effectively outsourced.

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