



SUMITOMO CHEMICAL

IMPROVING CHEMICAL SUBSTANCE SAFETY MANAGEMENT WITH SAP® SOFTWARE

QUICK FACTS

“With a wealth of knowledge on chemical safety, our staff is the source of our competitive advantage. You could say our investment in SAP EHS Management guarantees that.”

Yasumi Shiozaki, Executive Officer, Responsible Care Office, Sumitomo Chemical Co. Ltd.

Company

- Name: Sumitomo Chemical Co. Ltd.
- Location: Tokyo
- Industry: Chemicals
- Products and services: Basic chemicals, petrochemicals and plastics, fine chemicals, IT-related chemicals, agricultural chemicals, and pharmaceuticals
- Revenue: ¥1.79 trillion (€13.1 billion)
- Employees: 26,900
- Web site: www.sumitomo-chem.co.jp
- Implementation partner: Hitachi Ltd.

Challenges and Opportunities

- Meet growing demands for chemical substance safety management
- Satisfy complex global regulations
- Enhance responsible care initiatives to support health, safety, and the environment by implementing voluntary measures throughout the lifecycle of chemical products
- Respond to customer inquiries on green procurement per EU directive

Objectives

- Build a foundation for chemical substance safety management that supports complex global regulations and enables future growth
- Promote initiatives for enabling safety based on risk assessment
- Consolidate existing chemical substance management databases
- Maintain internal environment for on-demand access to key information
- Centralize individual expertise on chemical substance management

SAP® Solutions and Services

SAP® Environment, Health, and Safety Management application

Implementation Highlights

- Integrated databases developed for individual departments
- Redesigned data representation to support phrase searches
- Enabled multilevel searches linking product and composition information

Why SAP

- Adoption by major U.S. and European chemical corporations
- Compatibility with existing SAP ERP application and with information from 3E Company on legislation and environmental safety

Benefits

- Integrated database for chemical substance management
- Ability of all employees to exploit data
- Elimination of disparate management practices
- Multilevel searches including component and composition information

Existing Environment

- Custom-built chemical substance management system with multiple databases
- SAP ERP application

Third-Party Integration

- Database: Oracle
- Hardware: Hitachi BladeSymphony
- Operating system: Windows Server 2003



Founded in 1913, Sumitomo Chemical Co. Ltd. has long led the Japanese chemical industry in a wide range of fields. Its more than 100 subsidiaries and affiliates are active in basic chemicals, petrochemicals, fine chemicals, IT-related chemicals, agricultural chemicals, and pharmaceuticals. Expanding dynamically overseas amid global demand for chemical substance safety management, the company has developed the Sumitomo Chemical Comprehensive Environmental, Health and Safety Management System (SuCCESS). Based on the SAP® Environment, Health, and Safety Management (SAP EHS Management) application, the system went live in January 2009.

Deep-Rooted Commitment to Meeting Global Safety Regulations

External initiatives for chemical substance risk management and reduction are rapidly expanding at the global level. In 2002 the World Summit on Sustainable Development in Johannesburg, South Africa, reached an agreement to minimize the significant adverse effects of chemical substances on human health and the environment by 2020. To realize that goal, the Strategic Approach to International Chemicals Management was adopted in 2006 at the International Conference on Chemicals Management in Dubai, United Arab Emirates.

Chemical substance management regulations are also growing more stringent and complex. The 2006 Restriction of Hazardous Substances (RoHS) directive prohibits the use of electronics with chemicals such as

lead and mercury in the European Union. The Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) regulation enacted in 2007 requires high-volume manufacturers and importers of chemicals included in products to register these substances with the European Chemicals Agency (ECHA).

With a management philosophy that has emphasized environmentally friendly operations since its founding, Sumitomo Chemical foresaw this growing demand for chemical substance safety management and established the Responsible Care (RC) office in 1995 to meet it. The company has implemented RC activities designed to ensure safety throughout the entire chemical lifecycle. SuCCESS, the new SAP software-based system, supports these activities and plays a major role in enabling chemical substance safety management at Sumitomo Chemical.

Integrated Solution for Chemical Substance Management

In the meantime, several issues came to light regarding the legacy chemical substance management system at Sumitomo Chemical. The company had established two research groups to manage the chemical lifecycle. These groups managed their research results in independent databases, with little reciprocal use of data. Other departments also had their own databases and were separately building their own systems for issuing material safety data sheets (MSDSs). This nonintegrated approach created inefficiencies and prevented on-demand access to comprehensive data.

In the summer of 2006, Sumitomo Chemical began investigating software that would support an integrated and comprehensive approach to chemical substance management. According to Yasumi Shiozaki, executive officer in charge of the Responsible Care (RC) office at Sumitomo Chemical, "Our first objective was to build an integrated database, making on-demand access to necessary information available to all our employees. Another was the succession of skills. Our project mission was to encourage a wide-ranging transfer of individual expertise in chemical safety to the next generation of employees."

Software selection proceeded with proposals from multiple vendors. Focusing on future overseas expansion, Sumitomo Chemical decided to build a system based on SAP EHS



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Masayuki Enomoto, Environment and Safety Manager, Responsible Care Office, Sumitomo Chemical Co. Ltd.

Management, the de facto standard deployed in the United States and Europe. “We needed a system capable of global expansion to realize a world-class chemical substance management organization,” explains Masayuki Enomoto, environment and safety manager of the RC office at Sumitomo Chemical. “It was really the compatibility with domestic and foreign regulations and with environmental safety data provided by 3E Company that sold us on SAP EHS Management. Compatibility with our existing SAP ERP software was also a huge factor.” The company appointed Hitachi Ltd. as its implementation partner, citing Hitachi’s vast experience in deploying SAP solutions and its expertise in chemical industry systems.

Sumitomo Chemical has implemented the first full-scale installation of SAP EHS Management by a Japanese

“Chemical management thinking is shifting from hazard-based regulation rooted in a chemical’s specific characteristics to risk-based regulation that considers the conditions for the use of that chemical. It was imperative to have a system with sophisticated functionality that could keep pace with this worldwide trend.”

Masaharu Kimura, Industrial Chemical Safety Manager, Responsible Care Office, Sumitomo Chemical Co. Ltd.

chemical manufacturer. The current implementation supports the chemical substance safety management required by regulatory mandates. “Chemical management thinking is shifting from

hazard-based regulation rooted in a chemical’s specific characteristics to risk-based regulation that considers the conditions for the use of that chemical,” notes Masaharu Kimura, industrial chemical safety manager of the RC office at Sumitomo Chemical. “It was imperative to have a system with sophisticated functionality that could keep pace with this worldwide trend.”

Standardized Approach to Database Integration

During implementation, the project team spent a lot of time and effort integrating existing databases in operation in different departments. These repositories held 20 years of data. Because the databases were managed according to each department’s purposes, the project team had to develop a standardized approach to

data representation and attributes management. “For the new phrase-based management database, dividing the old data that was stored as plain text, writing it into phrases, and then

storing it in its proper place was a huge task,” says Kimura.

The operations front line initially vacillated about the new SuCCESS initiative. But since it was clear that the existing system was reaching its limits, the operators changed their thinking, focused on future growth requirements, and standardized business processes company-wide to align with the new system. Today, SuCCESS provides a unified foundation for the input, management, and output of chemical substance information.

Each operational unit enters information on its products, intermediates, and raw materials. SAP EHS Management updates regulations and other content provided by 3E Company as needed. A tree structure streamlines the management of composition, physical-chemical data, and safety information for a given chemical. The new solution also maps MSDSs to each chemical, allowing the efficient use of information.

Business users can retrieve the necessary data at any time via rich search functionality. They can browse information based on item and Chemical Abstracts Service (CAS) numbers, look up items based on subject regulation, and search products based on specific chemicals. The new solution also creates forms (such as MSDSs) and labels, including Globally Harmonized System (GHS) labels and yellow cards for distributors. In addition, a drafting feature enables the creation of review documents used by the internal process safety committee.

Powerful Search Engine and On-Demand Access

The new chemical substance management system has achieved the company's goal of providing employees with on-demand access to integrated data. In addition to enhanced business efficiency, the new system has enabled a unified policy for safety in chemical substance management and improved awareness at the operations front line.

Powerful search functionality drives rapid access to the right information. "Being able to have multilevel searches linking product information with composition data was revolutionary," says Kimura. Although the previous system enabled employees to look up a chemical's components, it was difficult to track the composition data of the materials making up that component. The new system allows substance searches based on component and composition, allowing matching products to be listed. "Being able to field customer inquiries on both chemical content and raw materials is a huge plus," stresses Ritsu Okajima, environment and safety manager in Sumitomo Chemical's RC office.

The new system has also met Sumitomo Chemical's objective of enabling the succession and centralization of skills by disseminating technology. As Okajima explains, "In the past, when dealing with a material safety inquiry, we would

use our internal human network to respond. With the new system, any employee can quickly find the required data, making this an extremely efficient system."

While use of the new system is firmly established, user training continues and additional functionality is planned. "Having staff with a deep knowledge of chemical safety is the source of our future competitive edge," says Shiozaki. "Our investment in SAP EHS Management guarantees that. We need to raise individual users' skill levels and continue to strengthen the system's functionality." To meet these objectives, Sumitomo Chemical is running a series of in-house training programs and plans to incorporate data auditing functionality and integration with its SAP ERP application.

In the current downturn, when most businesses are cautious about IT investment, Sumitomo Chemical sees SAP EHS Management as the foundation for global business competitiveness. The company is considering rolling out SAP EHS Management overseas to enable access to the database from anywhere in the world.

"Regulatory compliance is the minimum requirement for our RC activities," says Shiozaki. "We need to continuously look to the future and invest aggressively."

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