

Specialty-Batch Chemicals

Sector At-a-Glance

Number of Facilities:	2,000
Value of Shipments:	\$60 Billion
Number of Employees:	100,000

Source: SOCMA, 2002¹

Profile The specialty-batch chemical sector² comprises companies that produce chemicals to meet the specific needs of the customer on an “as needed” basis.

Specialty-batch chemicals are often not a final product, but rather a key ingredient in a final product. The following products either use or are specialty-batch chemicals: flavorings, food additives, cleaning agents, construction materials, dyes and pigments, pharmaceuticals, and cosmetics.

The states with the most specialty-batch chemical manufacturing facilities are (in descending order): California, Texas, New Jersey, New York, Illinois, North Carolina, Georgia, and Louisiana.³ As with other sectors, over the last decade the specialty-batch chemical sector has been impacted by changes in markets and global competition.

PRODUCTION PROCESS Unlike commodity chemicals, which are manufactured for general use, specialty-batch chemicals are made to meet specific customer needs. Therefore, the raw materials, processes, operating conditions, equipment configurations, and end products change on a regular basis.

Most specialty-batch chemicals are made through “batch processing”, where discrete quantities of chemicals are mixed to yield a desired compound. The process is completed on a relatively small scale and sometimes requires multiple steps. Batch producers can make hundreds of different compounds in a single year.

PARTNERSHIP The Synthetic Organic Chemical Manufacturers Association (SOCMA) has formed a partnership with EPA’s Sector Strategies Program to improve the environmental performance of the specialty-batch chemical industry. SOCMA’s 300 member companies represent more than 2,000 manufacturing sites and more than 100,000 employees. More than 75% of SOCMA members have fewer than 500 employees.⁴

KEY ENVIRONMENTAL OPPORTUNITIES The specialty-batch chemical sector is working with EPA to improve the industry’s performance by:

- Enhancing performance commitments; and
- Managing and minimizing waste.



Enhancing Performance Commitments

Beginning in 2004, SOCMA members will adopt a modernized management system approach with third party certification and metrics. This Responsible Care[®] Management System (RCMS) will build upon the industry's existing Responsible Care[®] Program and its six codes of practice: community awareness and emergency response, process safety, employee health and safety, pollution prevention, distribution, and product stewardship. RCMS is based on benchmarked best practices of leading private sector companies, national regulatory requirements, and other initiatives.⁵

Performance Metrics

Public reporting of uniform, industry-wide metrics is a key part of RCMS. Such measures will enable member companies to identify areas for continuous improvement and provide a means for the public to track individual company and industry performance. RCMS measures will address performance across a broad range of issues including economics, environment, health, safety, security, and products. Specific environmental metrics will include:

- ■ ■ Releases to air, land, and water reported to EPA's Toxics Release Inventory (TRI);
- ■ ■ Greenhouse gas intensity; and
- ■ ■ Energy efficiency.

SOCMA members report TRI releases annually and will report on greenhouse gas and energy metrics starting in 2005.⁶

Environmental Management Systems

Another key component of RCMS is an environmental management system (EMS). At present, 73% of SOCMA's Responsible Care Coordinators report that they have a quality management system or EMS in place.⁷ Fifteen of these facilities have been accepted into EPA's National Environmental Performance Track. In addition, SOCMA is a Performance Track Network Partner, committed to encouraging top environmental performance through EMS.⁸ To encourage EMS adoption, SOCMA and the Sector Strategies Program developed a customized EMS Implementation Guide.⁹

Case Study: EMS at Baker Petrolite

Through their EMS, Baker Petrolite's plant in Rayne, LA:

- *Decreased annual, normalized volatile organic compound emissions by over 27% through equipment improvements and better monitoring, inspections, and preventative maintenance; and*
- *Reduced hazardous waste generation by nearly 15% over three years by reusing vat rinsate, scheduling blending to reduce the amount of rinsate needed, and closely monitoring inventory.¹⁰*

Managing and Minimizing Waste

Due to similarities in industrial classifications, it is difficult to isolate the environmental impact of the specialty-batch chemical sector from that of the overall chemical industry. Between 1993 and 2001, normalized TRI releases by the entire chemical sector decreased by 65%. During this same time period, most of the sector's waste was recycled or treated rather than released. For example, in 2001, 41% of the chemical sector's TRI releases and waste managed was recycled, and 37% was treated.¹¹