

Chemical Safety Software's Chemical Management Program for Biopharmaceutical and Research Labs



Integrating EH&S into the Business Process

Novartis, one of the world's leading biopharmaceutical technology and companies has worked closely with Chemical Safety Software over the past several years to develop a complete program for managing chemical procurement, use and disposal in conjunction with regulatory compliance and reporting. Researchers have immediate access to the chemicals and compounds they need, while inventories of hazardous and regulated materials are monitored, reduced and better controlled.

R&D organization's research activities often involve thousands of small quantity compounds that must be readily available. Tens of thousands of unique chemicals in many more containers are in use at a typical pharmaceutical research facility. A pharmacy approach centralizes and streamlines the chemical distribution process, organizes chemicals by functional groups, allows for EH&S input and supports the goal of compliance with environmental health and safety permit and reporting requirements.

Chemical Safety's Environmental Management Systems (EMS) has helped make an in-house pharmacy program possible by controlling and dynamically sharing critical information across the supply chain.

In this program, receipt of chemicals is recorded in EMS by way of an electronic link into a purchasing/receiving system, and container labels with individual bar codes are created. As chemists need specific materials for research, they log into an Intranet web-site where they check availability of the required substances. If a chemical was ever ordered by one researcher, but not completely used up, it can be requested by another chemist with an online form. Researchers may then pick up the chemicals or have them delivered.

When chemicals are checked out of the pharmacy, container labels are scanned, as are bar-codes for the requesting lab, and the materials are moved to the new location, both physically and electronically in EMS. In this way materials are tracked throughout a research facility and inventory records are kept accurate. Unused amounts of chemicals are returned to the pharmacy's storage area, where they are scanned and recorded as available inventory in EMS.

The entire system runs on a secure network and chemists are given access rights to those substances necessary for their research. If a chemical is not available in the pharmacy, a chemist may order it directly from a pre-approved supplier whose catalog is available on the pharmacy web-site. Materials receipt information can be input to EMS through the purchasing system link, or directly by one of the preferred chemical suppliers with whom Chemical Safety has built an interface for this purpose.

All other functionality of EMS works in conjunction with this program. Inventory is cross-referenced to MSDS and chemical databases. Federal, state and local compliance reports as well as user-specified management reports can be generated easily. Users can search for information based on name, synonym, CAS#, ingredient, manufacturer, formula, location and hazard type. MSDS's and chemical inventory levels can be viewed and reports can be created and printed by any authorized employee in the plant. Hazardous materials and waste can be tracked cradle-to-grave, and chemical usage, along with related costs, can be calculated by location, lab and chemist.

The program has resulted in lower costs on a number of fronts. Purchasing and disposal costs have gone down due to the simplified sharing of materials and information. Insurance fees were also reduced because stocks of potentially dangerous materials were lowered, and no longer stored bench-top throughout the research facility.

Organizations interested in taking advantage of the program may contact Chemical Safety Software at 510-594-1000 x send email to ems@chemicalsafety.com, or visit the web site at www.chemicalsafety.com. Chemical Safety Software has been an industry leader in environmental management information systems for over 20 years. EMS, Chemical Safety's comprehensive, integrated system offers state-of-the-art environmental information management and compliance solutions to environmental managers in a wide range of industries.

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Program summary:

Supplied complete environmental information management software and customized program for chemical "pharmacy" management, bar-code scanning, consolidated storage and purchasing/waste minimization. Programmed interface to in-house pharmacy and purchasing system. Implemented radio-frequency ID tag passive tracking system. Implemented radioisotope tracking system.

The program encompassed the following work by Chemical Safety Software:

- Concept development
- Program recommendations
- Software provision
- Customization programming
- Hardware and systems interface building
- Systems support

Program details:

This program was based from the beginning on our out-of-the-box EMS system. The software manages environmental information for compliance reporting, regulated material management, hazardous waste documentation and MSDS maintenance.

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Additionally, Chemical Safety analyzed Novartis's needs, determined further functionality required to lower risk associated with chemical inventories being stored throughout the research facility, "bench-top" in chemists' labs. A process keeping all chemicals and inventory information accurate and available real-time was established, and custom programming was performed by Chemical Safety Software's employees. Bar-code scanning equipment and capability was programmed into EMS, and later was also updated to include tracking with radio-frequency ID tags. A separate system to track required information associated with radioactive materials was developed in conjunction with Novartis. An interface was set up between EMS and Novartis's working purchasing system to log inventory as it was received. Researchers order chemicals they need from a desktop computer's order form on Novartis's Intranet. These chemicals are delivered to the lab and tracked by scanning bar codes on the chemical container and the lab itself.

Program Results:

Better control of chemicals resulted in lower costs for construction of the research facility as regulated chemicals are consolidated and stored in highly protected bunkers. This also lowered insurance costs for Novartis. Better control of information resulted in lower costs as researchers shared chemicals of which they need only small amounts. This lowered both purchasing and waste disposal costs. Environmental reporting is easier as inventory is traceable and a single software source houses all required information. Manual entry of inventory receipt and waste disposal was eliminated, keeping records more accurate at the same time.