FEATURE

Improving lab coat selection, use, and care: Lessons learned from one university's comprehensive lab coat initiative

In fall 2012 a lab coat initiative was started at the Massachusetts Institute of Technology (MIT) with the overall goal of making it easier for departments to efficiently provide lab coats that users would want to wear. To accomplish this goal, an ad-hoc committee was formed with representatives from multiple MIT departments, the central Environment, Health and Safety (EHS) Office, and MIT Sourcing and Procurement. In the subsequent two-year period, the committee successfully updated university guidance on lab coat selection, use, and care; established MIT Preferred Vendors for lab coat laundry and supply; and initiated outreach efforts to encourage availability and proper use of lab coats throughout the Institute. This article summarizes the work performed by the committee and presents several case studies showing how individual departments have worked to establish comprehensive lab coat supply and laundry programs compatible with their individual needs, administrative structures, and lab cultures. Further, suggestions are presented on how other universities seeking to standardize lab coat supply and usage can approach the sometimes daunting project of choosing and setting up an effective lab coat management system.

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BACKGROUND

Lab coats are a primary means of protection in the laboratory environment when used in combination with other appropriate personal protective equipment (PPE) and engineering controls. However, in many university laboratories suitable lab coats are either unavailable or not routinely worn for work with hazardous materials. This lack of proper PPE became a source of major introspection at universities following the tragic death of UCLA researcher Sheri Sangji in early 2009. Sangji was handling a plastic syringe containing the pyrophoric chemical *tert*-butyllithium when the plunger came out, resulting in ignition. Sangji, who was not wearing a lab coat, suffered second and third degree burns, resulting in death 18 days later.[1] Many speculate that a flame-resistant lab coat might have prevented the most severe burns.

At the time of the UCLA incident, the MIT policy for lab coats stated "At a minimum, a laboratory coat or equivalent protective clothing is required for work with particularly hazardous substances, unsealed radioactive materials, and biological agents at BL2 or greater". The OSHA Laboratory Standard defines particularly hazardous substances as select carcinogens, reproductive toxins, or chemicals having a high degree of acute toxicity.[2] In 2012, the MIT Committee on Toxic Chemicals expanded the MIT policy for lab coat use to include a lab coat requirement for work with all hazardous chemicals. The result of this more comprehensive policy is that most people working in a lab at MIT must wear a lab coat or equivalent for some, if not all, the work they do in the laboratory. The policy further states that individual labs or departments can choose to enact stricter rules for lab coat use within their areas.

While the updated policy addressed when to wear lab coats, no guidance was provided on how to choose lab coats and establish a dependable supply of clean, appropriate coats. A lab coat committee was formed to address these issues.

METHODS

In November 2012 a lab coat committee was formed at MIT to address issues of lab coat safety, supply, and usage. MIT is a major research university with approximately 21,000 students and employees spread among its 45 DLCs (Departments, Labs, or Centers). Work involving hazardous materials occurs in over 3,400 rooms around campus, managed by over 500 principle investigators. A central EHS Office provides specialized support to the MIT community, while department-specific EHS coordinators manage the particular needs of their home departments. In addition, each lab at MIT designates an EHS representative to oversee the day-to-day issues in the lab and to serve as a liaison with the EHS Coordinator and central EHS Office.

In order to represent the varied needs of this large research community, the lab coat committee included a mix of central EHS officers, departmental EHS coordinators, and lab EHS representatives (Table 1). This combination of members provided expertise in biosafety and industrial hygiene, an understanding of lab coat needs across departments, and useful insight into the daily practices of researchers at the Institute. In addition, membership included MIT Sourcing and Procurement representatives that were able to facilitate discussions with lab coat manufacturers and laundry companies as well as spearhead an RFP (request for proposal) process to select preferred vendors for lab coat supply and laundry. Initial goals of the initiative included updating available guidance regarding lab coats and establishing preferred vendors for lab coat supply and laundry. Further work involved outreach programs aimed at different levels of the MIT community.

Table 1. MIT Lab Coat Committee Membership.

Committee Member	Department	Job Role
John Fucillo	Biology	EHS Coordinator, Operations Administrator
Scott Ide	Chemistry	EHS Coordinator
Fabiola Hernandez	Environmental, Health and Safety	Assistant Officer – Industrial Hygiene and Radiation Protection
Dan Herrick	Mechanical Engineering	EHS Coordinator
Ashley King	Center for Materials Science and Engineering	EHS and Facilities Coordinator; formerly EHS Representative
Rosa Liberman	Brain and Cognitive Sciences	EHS Coordinator
Mary Lindstrom	Biological Engineering and Materials Science and Engineering	EHS Coordinator; formerly EHS Represenative and Lab Manager
Sara Malconian	Office of the Vice President for Finance	Assistant Director, Strategic Sourcing and Procurement
Michele Miele	Environment, Health and Safety	Biosafety Officer
David Petricone	Office of the Vice President for Finance	Strategic Sourcing Analyst
Emily Ranken, CIH	Environment, Health and Safety	Industrial Hygiene Officer
Steve Wetzel	Chemical Engineering	Facilities Coordinator