

Improving chemical management: A program for K-12 school districts

Chemical Strategies Partnership
December 11, 2009

Agenda

- Who is CSP?
- What does chemical management mean in schools?
- Considering improvement options
- Case study: Lansing School District
- Questions

Who is CSP?

- The Chemical Strategies Partnership (CSP) is a non-profit consulting, education and research organization, funded by foundations, government, and private companies
- CSP is an independent advisor with no commercial interest (we are not a supplier of chemicals or a provider of chemical management services)

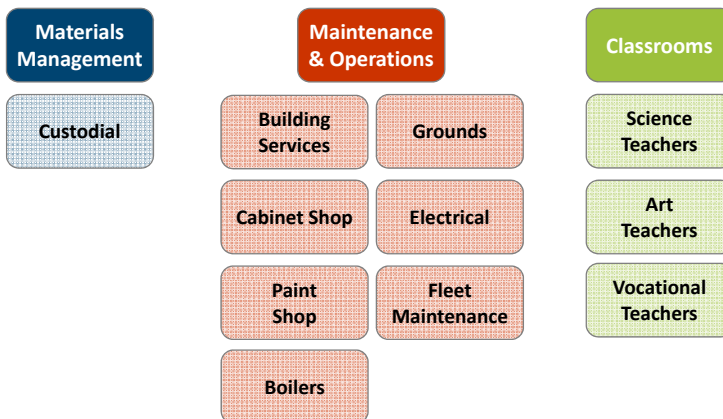
CSP's Mission:

To reduce chemical use, waste, and cost
through transformation of the chemical supply chain

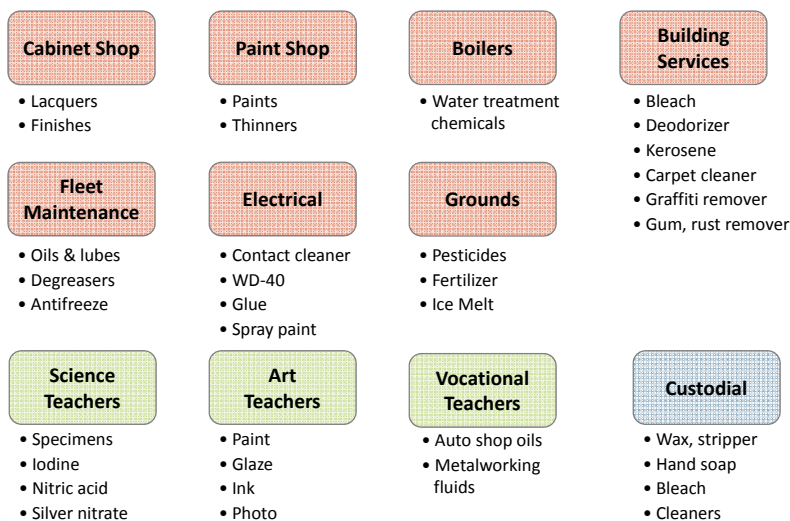
Why are we here?

- School districts are asked to meet increasing educational demands with **diminishing resources**
- There is growing recognition that **hazardous materials in schools represents a risk** that must be reduced
- Chemical Management Services (CMS) is a model proven in industry to reduce chemical use and cost, hazardous waste, and EH&S risks
- The EPA has provided funding to CSP to test whether the CMS model can work in an urban school district

Who uses chemicals at a K-12 school?



What kinds of chemicals do K-12 schools buy?



Why improve chemical management?

- Health and Safety concerns
 - Safe environment for students (toxics, especially mercury)
- Emergency preparedness
- Reduce risk and liability
 - Spills can cause shut downs and \$\$\$ in cleanup costs
- Increasing demands for healthier & greener schools

What are some of the challenges?

- Uncontrolled buying of chemicals
- Classroom chemical stockpiling
- Need for right-sizing (e.g. quarts of paint, rather than gallons)
- Users are not clear where MSDSs reside
- Lack of district-wide hazardous materials training
- Desire for safer chemicals; new chemical testing protocols needed

How can K-12s improve chemical management?

1. Develop goals & objectives
2. Form a team
3. Conduct a baseline assessment
4. Analyze current needs
5. Implement a chemical management program

1. Develop goals & objectives

- Ensure classroom and lab safety for students and teachers
- Minimize amount and toxicity of chemicals entering district facilities
- Prevent stockpiles of old/unused chemicals from accumulating in labs, classrooms, and other locations
- Ensure teachers and staff have knowledge and equipment necessary to maintain a safe school environment
- Achieve 100% regulatory compliance in the use and disposal of hazardous waste

2. Form a team

- **Establish a cross-functional team:**
 - Safety and risk management, grounds, vehicle maintenance, facilities maintenance and operations, paint shop, waste management, janitorial, purchasing/accounting/finance, teachers (science, art, vocational)
 - A dedicated team champion
- **Team commitment to:**
 - Participation in initial kick-off meeting
 - Assistance in collection of chemical data and information
 - Participation in program scoping meeting
- **Team leader / project manager commitment to:**
 - Participation in all meetings
 - Assistance in facilitating data collection, meeting coordination, communication to upper management, regular check-ins

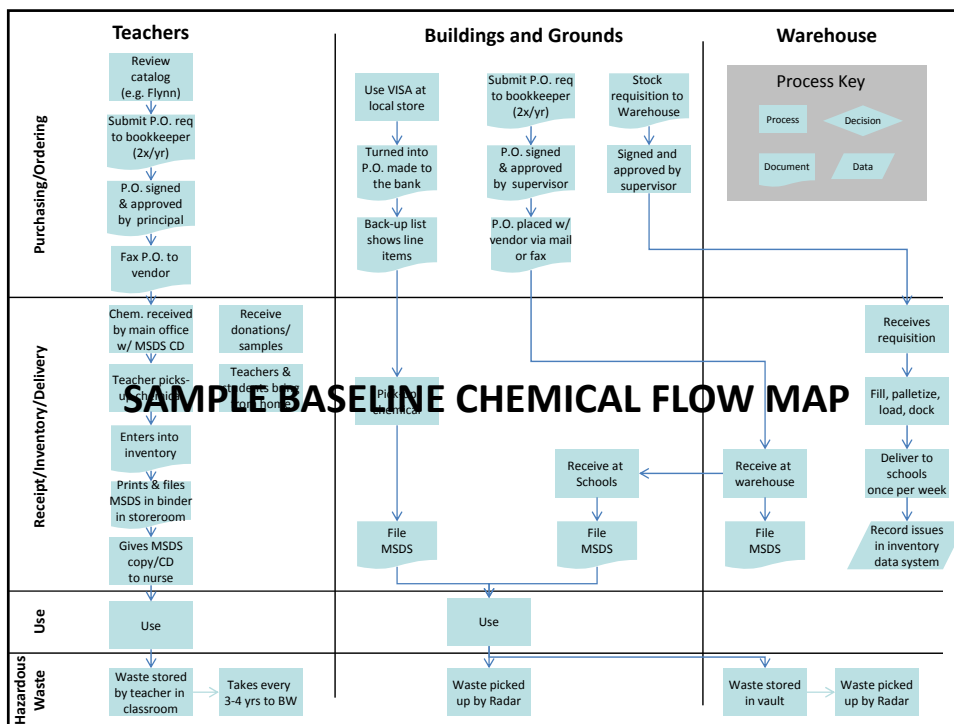
3. Conduct a baseline assessment

Why?

- Characterize the existing chemical management system to understand how to best pursue improvement
- Make the case to upper management about the importance of developing an efficient and effective chemical management program
- Evaluate progress towards improving chemical management

How?

- Interview district staff who use chemicals to understand needs and how they are currently managed
- Map the flow of chemicals throughout the district
- Identify strengths and challenges in current system



4. Analyze current strengths and challenges

Current strengths:

- Science classrooms using micro-scale experiments to decrease waste and costs
- Some departments moving toward safer chemicals
- Some chemical product consolidation
- Warehouse provides chemicals at acceptable delivery time
- Enthusiasm for more control / assistance

Current challenges:

- Uncontrolled buying / limited chemical gate-keeping
- Classroom chemical stockpiling, storeroom "out of control"
- Need for right-sizing (e.g. quarts of paint, rather than gallons)
- Users are not clear where MSDSs reside
- Need for district-wide hazardous materials training
- Desire for safer chemicals; need new chemical testing protocol

5. Implement a chemical management program

Sample action items:

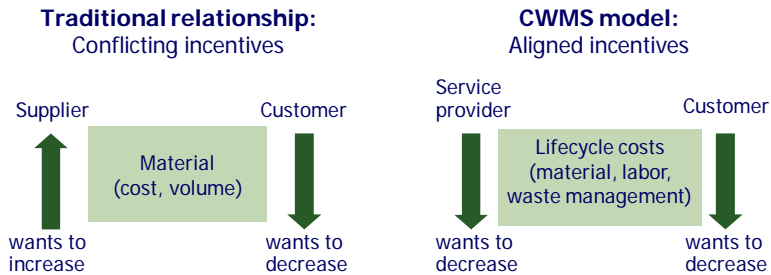
- **Centralize purchasing** to facilitate gate-keeping activities (track toxic chemical acquisition, avoid overbuying, gain better visibility into chemical types and quantities received)
- Establish system for **annual review of chemicals** in classrooms and clean-outs
- Minimize chemical use, waste and toxicity by designing **micro-scale lab experiments** and **green chemistry techniques**
- Design system for **managing MSDS information**

Improve internally, or seek assistance from a third party expert?

What are Chemical Management Services (CMS)?

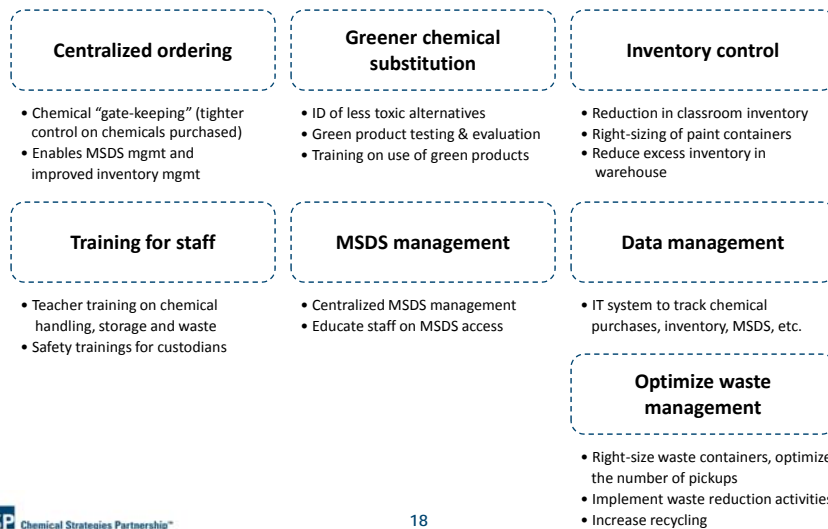
- CMS is a strategic, long-term contract for managing chemicals and associated lifecycle services
 - Chemical lifecycle activities include purchasing, inventory, delivery, hazardous waste management, EH&S, data tracking and reporting
- High quality, low cost system for expert chemical management and continuous improvement
- CMS programs align the incentives for suppliers and customers to reduce chemical volume and costs
 - From “more is more” to “less is more”
 - Contractual performance / savings guarantees

CMS aligns formerly conflicting incentives



Changing the supply chain model results in potential costs savings and environmental gains

What might CMS look like at a K-12 district?



Successful example: Lansing School District

District profile:

15,000 students
2,800 employees
40 facilities

Chemical purchases:

\$227,000

Waste disposal:

\$102,000

- Lansing School District (LSD) contracted for CWMS services in 2006
- Contract includes purchasing, delivery, inventory, environmental compliance, training and waste management
- Guaranteed savings from baseline chemical and waste costs; savings fund CWMS provider to implement additional support services
- No jobs lost; staff has additional time for main responsibilities

Successful example: Lansing School District

Additional benefits cited:

- Tighter control on what chemicals are being purchased and used
- Better products, less toxic chemicals
- Quick payback from waste oversight and contract management
- Annual safety trainings for custodians
- CMS provider attends Science Steering Committee meetings 3x/yr
- Teacher training on how to order chemicals for the classroom
- MSDS management
- Better inventory control

Resources

- **CMS Manual for Schools:**
Improving Chemical and Waste Management: A Guide for K-12 School Districts
http://chemicalstrategies.org/implement_manualstools.htm
- **Lansing case study and strategic plan:**
http://chemicalstrategies.org/resources_casestudies.htm

Questions?

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