

Surface Coating Tools: Save Money, Reduce Emissions

Solvents and paint thinners are commonly used in the surface coating process to clean surfaces and tools as well as to thin coatings. But there are significant environmental and health concerns related to their use. Exposure to toxic air pollutants such as those in solvents and coatings may increase chances of cancer or other serious health effects, such as reproductive problems, birth defects and asthma.

Safeguard the health of your employees and customers by using materials, processes and practices that reduce or eliminate air pollution at the source. Pollution prevention practices also save money on waste disposal, paint and solvent usage, and the cost of air pollution controls.

Consider these three pollution prevention strategies:

1. Enclosed Paint Gun Washers

Use of an enclosed gun washer can minimize solvent evaporation loss and reduce worker exposure. An enclosed system flushes solvent through the paint equipment to remove paint residue without the need for manual cleaning, saving time and labor costs.

2. Disposable Paint Cup Liners

The amount of solvent needed to clean equipment can be greatly reduced by using disposable paint gun liners. Most of the solvent used for spray equipment cleaning is used

to remove residual coating from the paint pot. If paint cup liners are used, the residual coating cures in the liner, eliminating the need to clean the paint pot.

3. Solvent Recycling

Although spent solvents are often designated as hazardous wastes, many contaminated solvents can be reclaimed and then re-used. Distilling solvents at a facility is a common way to extend their useful life, reduce the amount of new (raw) solvents needed and decrease the amount of hazardous waste generated.

Before investing in a distillation unit (also called a still or solvent recycling unit), take the time to consider whether you really need one or not. If you can reduce the amount of spent solvents you generate, a still may not be necessary. Whether or not you have a still, reducing your solvent use and using less toxic solvents are good steps worth pursuing.

Things to consider before purchasing a still:

- ✓ Will the supplier distill a sample of the spent solvent with the proposed system and provide an analysis of the recycled solvent?
- ✓ Will any of the still's components deteriorate after extended use? Only stainless steel and Teflon fittings and gaskets will stand up to repeated use with some solvents.

(continued on page 2)

Watch for your Annual Registration Form in March

Beginning this year, all facilities that are registered air pollution sources with Spokane Clean Air will be sent their Annual Registration Form (ARF) in the same month—in March. Previously ARFs were sent to different sources throughout the year. Now, all sources will report data for the same calendar year.

ARFs are used to verify site information and calculate pollutant emissions from registered sources. It is important that the annual registration form be filled out completely, signed, and returned by the deadline, noted at the end of each form.

Information often missing on returned forms includes:

New products or an attached MSDS for those new products reported.

Report usage in units directed (e.g. “gallons” of paint, “therms” of natural gas, “hours” of operation, etc.

Signature of the responsible official.

For more information about the annual registration process, call 477-4727.

Inside . . .

McKay named Air Monitoring Operator of the Year

3

Housekeeping has Paybacks

3

Notice of Construction Review

4

Business Spotlight: CXT, Inc., is the 2011 Clean Air Award Recipient

5

Coating tools...

continued from cover

- ✓ What are the operating costs? Costs of labor, electricity and liners should also be included (see sidebar for more information). Compare these costs with savings from reduced purchases of virgin solvent and reduced hazardous waste disposal costs.
- ✓ You should let the supplier know if you plan to distill products that contain nitrocellulose.

Special precautions must be taken when recycling solvents containing this material. Material Safety Data Sheets (MSDS) are the best source for determining whether nitrocellulose is present. It is not uncommon for a MSDS to list only the chemicals of highest concentration. If the MSDS does not report 100% of the chemicals in the product, contact the supplier to find out if it contains nitrocellulose. ■

Example Payback Analysis

The following is an example of how to calculate the payback when considering investing in a still.

A shop is considering purchasing a still with an initial investment of \$7,700 for the still and its installation. The shop generates 24 drums of waste solvent per year, which costs \$200 per drum for disposal, for an annual disposal cost of \$4,800. The shop determined that the average percent of solids in their waste solvent, and estimate that they'll be able to recover 1,056 gallons of solvent a year, and generate 3 drums a year of still bottoms. Because they pay \$4.50 a gallon for the raw solvent, they anticipate saving \$4,752 in raw solvent purchases. The still bottoms will cost \$350 a drum to dispose, for an annual total of \$1,050.

They will distill 3 batches of solvent per week. They estimate that this will require 1 hour of staff time per batch and 0.5 hours/week in maintenance, at a salary rate of \$20/hour. Electric power for the still will cost \$0.61 per kWh.

Initial Capital Investment

Distillation Unit	\$6,000
Installation	\$1,700
Total Investment	\$7,700

Annual Operations Savings and Costs

Savings on raw solvent	\$4,752
Less disposal of spent solvent	\$4,800
Disposal of still bottoms	(\$1,050)
Labor	(\$3,640)
Utilities	(\$228)

Total Annual Savings - \$4,634

Payback period = capital cost divided by annual saving = 1.66 years or about 20 months.

Source: Ecology publication 94-31, rev. Jan 2003

More Ways to Cut Costs, Reduce Emissions

Reduce the use of solvent cleaners

By using an enclosed solvent gun washing system, you'll reap many benefits, including:

- ✓ less evaporation when cleaning equipment
- ✓ less solvent use by more than 50%, resulting in significant cost savings
- ✓ decreased labor time by 60%
- ✓ decreased emissions by 70-90%

Reduce paint use

- ✓ Turn off the gun cleaner when not in use to reduce evaporation.
- ✓ Train technicians to use good spray application techniques to improve transfer efficiency.
- ✓ Minimize waste and spills when mixing paint.
- ✓ Reduce vapors and waste by using air-tight containers. Keep containers closed unless adding or pouring liquid.

Switch to less toxic paints and solvents

- ✓ Use water-based or higher solid paints.
- ✓ Choose solvents with low toxic air pollutant and VOC content. Use water-based, alkaline or microbial cleaners.

For more assistance and to schedule a free pollution prevention consultation on these and other measures, contact Margee Chambers, 477-4727, extension # 114.

McKay Earns *State Air Monitoring Operator of the Year*



The recipient of the 2010 “Air Monitoring Operator of the Year” award for Washington state is Mike McKay, Air Quality Technician for Spokane Clean Air.

The award is presented by the Washington Department of Ecology (Ecology) to one recipient each year who “stood above the rest” by taking on extra tasks in addition to their usual duties.

McKay is getting the award based on his consistent high quality work. Stan Rauh, Quality Assurance Coordinator for Ecology, stated that “Mike is one of the few operators I don’t have to remind to get his reports in on time.”

McKay’s responsibilities with Spokane Clean Air are varied. His main responsibility is the PM10 monitoring network. He serves as the back-up for the PM2.5 monitoring network.

McKay also serves as the manager of the Agency’s Vehicle Fleet, and is the resident go-to, all-around handy man!

“Mike is always available to take on new projects and provide ideas to improve operations,” said his supervisor, Ron Edgar, Chief of Technical Services for Spokane Clean Air.

McKay began working for Spokane Clean Air in 1999 as an intern and soon

became a permanent, part-time Air Quality Technician. In 2005 he was moved to full time status.

McKay earned a BA in Business Management and Social Anthropology from Evergreen State College. He has taken classes at Spokane Community Colleges and Eastern Washington University.

McKay is the second employee from Spokane Clean Air to receive this recognition. In 2005, Mark Rowe was named Air Monitoring Operator of the Year. ■

Make Good Housekeeping Practices A Priority

Staying on top of housekeeping practices should be a priority at your work site. Good practices inevitably result in reduced emissions and a cleaner, safer workplace. Here are key practices to follow that will have many an inspector smile while visiting your facility:

Handle solvent-containing materials properly. Examples include keeping all solvent containers tightly sealed, storing solvent rags/wastes in tightly-sealed metal containers, and cleaning up spills immediately.

Keep equipment in good operating condition. To capture emissions effectively, equipment must be maintained in good working order. Follow the manufacturer’s recommended preventative maintenance schedules

to ensure your equipment maintains its high level of control efficiency.

Regularly train employees. Keeping employees trained on compliance issues and housekeeping practices is critical to your success.

Maintain accurate records. Examples include: document product usage and purchases, keep MSDS (Materials Safety Data Sheets) for all production materials on-site, record all equipment maintenance activities, save waste disposal manifests, and keep records on-site and available for inspection.

Please visit our website at www.spokaneleanair.org, and check out the Business Information section. There are a variety of compliance assistance materials available. ■

Start 2011 with a Free Compliance Consult

If you would like an on-site compliance assistance visit to review air quality requirements and discuss additional pollution prevention activities your facility might want to consider, please contact our agency. These visits are separate from the annual compliance inspections conducted by our inspectors.

Call our Pollution Prevention Consultant, Margee Chambers, at 477-4727, extension #114 to make an appointment.

For information about our Pollution Prevention consultations visit http://www.spokaneleanair.org/pollution_prevention_consultation.asp

Air Quality Primer: The Notice of Construction Application Review Process

Approximately 40 Notices of Construction (NOCs) permit applications are submitted to Spokane Clean Air each year. NOCs are a one-time requirement for new and modified air contaminant sources.

The applications go through a thorough review process prior to approval. Here's how the application review process works:

Once a NOC application, a SEPA checklist (if required) and appropriate base fees are submitted to Spokane Clean Air, the Agency's engineering staff reviews the application for completeness, including but not limited to the following:

- ◆ General information (owner/applicant contact information.)
- ◆ Installation information.
- ◆ Process equipment information, including equipment specifications and data on expected emissions, which may include source test data on similar equipment.
- ◆ Air pollution control information, including equipment specifications and control efficiency.
- ◆ Exhaust point data.
- ◆ Building dimensions (for modeling) or modeling information, if available.
- ◆ Operational information for equipment installed/modified.
- ◆ Best Available Control Technology (BACT) analysis, if required.

- ◆ Site location map/information and facility layout.
- ◆ Process flow description.
- ◆ SEPA checklist/DNS (Determination of Non-significance)
- ◆ Material Safety Data Sheets (MSDS) if applicable.
- ◆ Applicant signature and date on application.

The engineering staff makes a determination on whether the application is complete, and provides written notification to the applicant on the completeness determination.

Application Review

Upon receipt of a complete application, the reviewing engineer performs a review of the project/proposal. The review may include some or all of the following:

- ◆ Determine applicable regulations (federal, state, and local).
- ◆ Perform or review emissions calculations.
- ◆ Perform or review air dispersion computer modeling.
- ◆ Determine compliance with applicable federal, state, and local laws and regulations, including BACT, RACT, etc.
- ◆ Determine adequacy of air pollution control equipment.
- ◆ Determine approval conditions.
- ◆ Review environmental checklist/DNS.
- ◆ Draft NOC review document.

- ◆ Draft preliminary determination and approval conditions

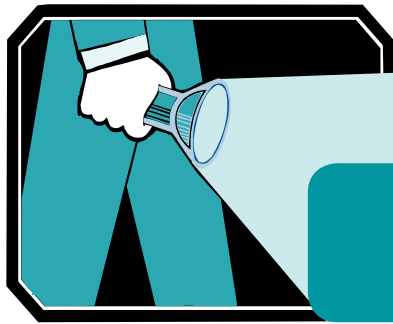
The review documents and draft conditions of approval (generally in the form of a review memo) are circulated to the staff professional engineer, Chief of Technical Services, and the Agency Director for review and/or comment. Upon their review and signatures, draft conditions of approval are sent to the applicant. Depending on the proposal, a 15-day or 30-day public comment period may be held on the preliminary determination.

Final Determination

At the end of the comment period, a final determination is made on whether or not to approve the proposal/project. Comments received are reviewed and may be incorporated into the final conditions of approval.

The applicant is notified of the final determination. If the determination is to approve the proposal/project, the application and conditions of approval are signed, and then sent to the applicant. Any additional review fees are invoiced when the final approval is sent.

If you would like further information on the NOC approval process, please contact Joe Southwell, Air Quality Engineer, 477-4727, ext. # 103. ■



Business Spotlight

CXT, Inc. Recipient of the 2011 Clean Air Award

CXT, Inc. is the 2011 recipient of the Clean Air Award, presented by Spokane Clean Air to a business that consistently demonstrates a significant commitment to reduce air emissions.

CXT, Inc. is a leading supplier of precast concrete and railroad products in the U.S. The company operates two facilities in Spokane Valley; one produces concrete railroad ties and the other manufactures pre-fabricated concrete buildings.

About a year ago, CXT decided to “go green” and in doing so, implemented several facility-wide changes. A big change occurred in the painting department of the concrete outdoor building facility. Most of the solvent-based paints have been replaced with water-based, which have a very low Volatile Organic Compound (VOC) content. The company also switched out their solvent-based parts cleaner with a cleaning fluid that is much more environmentally-friendly. These changes have dramatically reduced their hazardous

waste generation and associated disposal costs. In addition, their VOC emissions have been cut in half! VOC emissions contribute

modified their concrete mix at both of their facilities reducing the use of heaters for curing the concrete. By using less natural gas, the combustion emissions generated by the heaters have been reduced by 20%.

In addition, CXT has recently become a voluntary Commute Trip Reduction (CTR) work-site.

“Under the CTR program, we promote the benefits

of commute alternatives to our employees,” stated David Steiger, Vice President CXT Precast Buildings. “It allows our company to be holistic in its approach to going green,” he added.

Spokane Clean Air is pleased to publicly recognize CXT Inc., as the 2011 Clean Air Award recipient!

Past recipients of the Clean Air Award: Fiber-Tech Industries, Ross Printing Co, Inland Empire Paper Co, Huntwood Industries, TransCanada, Avista Corp, and Fairchild Air Force Base.



Bill Dameworth, Spokane Clean Air Director, (center) presented the award to Aaron Rogers (left) and David Steiger of CXT, Inc.

to the formation of ground-level ozone, a pollution concern in Spokane during the summer months when ozone levels are at their highest.

What is especially remarkable is that CXT made these changes during a period of significant growth. In 2010, while these changes were being implemented, production at the facility was up 20 percent.

In addition to the changes in the painting department, CXT has

Doing Our Share for Clean Air recognition program

Spokane Clean Air offers two recognition programs for companies that are in the agency's registration program.

The annual Clean Air Award is presented to one company each

year. The company is nominated by Spokane Clean Air staff.

The other recognition program, “Doing our share for clean air” is conducted every-other-year. Under this program, each registered facil-

ity receives a form to complete and send in for recognition. The next opportunity to apply will be in March when the form will be sent out with the Annual Registration Forms, so be sure to watch for it! ■

UPDATE

Spokane Regional Clean Air Agency
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Air • Quality • Calendar

The Spokane Clean Air Board of Directors conducts its regular business on the first Thursday of each month, beginning at 9:30 a.m., at Spokane Clean Air's office, 3104 E. Augusta Ave. If a change to this schedule occurs, it will be publicized. Please check our website, www.spokanecleanair.org, for current meeting information, including agendas and minutes.

2011 Board of Directors:

Tom Brattebo, Chair, Member-at-Large
Jeff Corkill, City of Spokane Representative
Ed "Chuck" Crockett, Small Cities and Towns Representative
Rose Dempsey, City of Spokane Valley Representative
Al French, Spokane County Commissioner

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3104 E. Augusta Avenue
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Regular office hours:
Monday - Friday, 8 a.m.- 4:30 p.m.
Phone: 477-4727
www.spokanecleanair.org

Transferring Ownership

When ownership or operation of a registered facility has transferred to another party, the new owner or operator must report the change to Spokane Clean Air within 90 days of the change, by submitting a completed "Change of Ownership/Operator" notification form. Failure to report a change of ownership/operator within 90 days may result in the issuance of a Notice of Violation, which is followed by the assessment of a civil penalty. New owners or operators should be aware that any liability for fee payment, including payment of delinquent fees and other penalties, survive any transfer of ownership.

Permanent Closure - If a business closes or permanently discontinues operation of air contaminant sources or activities, the owner or operator must report the closure to Spokane Clean

Air within 90 days of the closure by submitting a completed "Business/Source Closure" notification form. Once the notice of closure is received, a final bill for any fees incurred for operating during that calendar year (if they have not already been paid) will be invoiced. Failure to report a closure of business within 90 days may result in the issuance of a Notice of Violation, which is followed by the assessment of a civil penalty.

In the event of a permanent closure, all equipment that releases air contaminants must be permanently removed from the business or configured so that it is incapable of generating air contaminants (e.g. disconnection of power to the equipment, mechanical position that prevents processing, placing locks on the equipment to prevent operation).

Temporary Closure - In the event that the owner or operator of an air contaminant source chooses to discontinue operations, but continues to pay the annual registration fee to Spokane Clean Air, the registration and status of the equipment will be maintained as if the facility were still in operation. In this situation, the reporting of the closure is not necessary. This may be done for up to five years after the air contaminant source has discontinued operation.

There are advantages to maintaining registration. Once an air contaminant source has been reported "closed" to Spokane Clean Air, a new Notice of Construction application for approval will likely be required prior to operating the air contaminant source again. New approval may be contingent on upgrading pollution controls and payment of associated fees.

Call 477-4727 for more information.