Enviroscope

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Toxic Organic Management Plans: Pleasing the Powers That Be & Staying Sane

When preparing an industrial discharge permit application for a client, I am always called upon to include a Toxic Organic Management Plan—40 CFR 413.03(b) & 433.12(b). A metal finisher must segregate solvents and degreasing agents from treatment-bound wastewater streams in such a way that those materials are never allowed to contact or enter any water. A TOM Plan is also helpful for zero-discharge finishers to keep treatment systems functioning well.

Through education of management personnel and employees, and the adherence by all to the facility TOM Plan, this goal can be achieved. An ongoing compliance with this very necessary regulation will then be maintained. Carrying out a logical series of steps can simplify the job and minimize surprises.

Preparing the Plan

The scope of the Plan should cover identification, use, storage, handling and disposal of toxic organics at your facility. Include provisions for employee training, because the Plan will be more effectively carried out if your people know why they need to do the things they are asked to do.

Process Engineering Analysis

Inventory your facility using a list your regulator will gladly provide to you. If he is out of handouts, refer to the total toxic organics tables in 40 CFR 413.02 (i) and 433.11 (e). Compare the "Organic Name" or its synonyms to your own internal inventory from your Material Safety Data Sheet information. Include a water flow diagram. Make a list of the raw materials used in your process. Take samples from your facility's effluent and test for toxic organics at a lab accredited and licensed by your state. A comparison with the incoming chemistries should enable one to determine the source of the material. Bear in mind that some substances found to be present in the discharge but not in the incoming chemistry are probably by-products generated during the process, and provision must be made for their management as well.

The potential to enter the wastewater should be evaluated for each source, including the examination of equipment for corrosion or damage that could allow toxics to leak into the waste stream. With each chemical, can any substitutions be made replacing toxic organics with environmentally friendly products?

Your vendors can help you find safe replacements for solvents and cleaners, and you can often obtain credits in your Pollution Prevention Plan or other waste minimization efforts, reaping multiple benefits from material substitutions. Your signature on a certification that you have no listed substances present in your facility can exempt you from filing a Plan, because you no longer have any toxic organics to manage.

Can't Live Without Solvents?

If you have parts coming into your facility coated in machine oil, or heavily contaminated with buffing compounds and stubborn greases, solvents are frequently the only economical way to meet the needs of your customer. Vapor degreasers are alive and well, despite rumors to the contrary, with TCE and PCE regulated under MACT Standards for airborne emissions. If such a unit is present in your facility, or if you wipe clean parts with acetone or MEK, you will need a TOM Plan, as well as complying with those air quality regulations. (Be sure to check with your local regulators, because compliance differs from state to state. Although all are subject to Federal regulations, state and local governments can impose stricter regulations should they elect to do so, but effective TOM Plans are normally universal.)

Pollution Control Options

Next, we want to evaluate the facility's Pollution Control Options. These can include modifications to equipment, chemical, or solvent substitutions, re-use or recycle options, process changes and neutralization. Conduct a case-by-case analysis and list all possible options to control each source of toxic pollutant. Evaluate them as to feasibility and profitability, and decide whether adopting a TOM Plan is an alternative to expensive TTO monitoring. It is very probable that a Plan can be generated that is appropriate for your facility.

Plan preparation should include a list of all toxic organic chemicals present in your facility, as well as their locations and/or applications, clear descriptions of methods of disposal (waste hauler, reclamation, or incin-

eration.) Make it clear that dumping into water waste streams is absolutely prohibited, and provide clear options for proper disposal.

List procedures for prevention of spills, leaks and other opportunities for toxics to enter any floor drains, non-contact cooling waters, wastewaters, groundwater, soil, storm drains, dry wells, or surface water (basically, a Spill Control and Countermeasure Plan or SPCC added as an attachment).

Also include a determination of the quantities of toxic organics used, as well as the amounts discharged. Estimate as closely as possible. If you are preparing this for submittal as part of your facility's compliance routine, your regulator will frequently give you constructive criticism. Asking for his help and advice is always a great way to get on—and stay on—the good side of any regulator.

With a little effort and teamwork, a Toxic Organic Management Plan can become a workable prospect, rather than a mystery to be dreaded and postponed. Get started today! ***P&SF***