

Environmental Impact PCB Cleaners

Session Questions and Answers

Q: You mention the Montreal Protocol early in your presentation, can you explain that further?

A: The Montreal protocol was an international treaty signed by about 197 countries back in 1987. It was designed to protect the ozone layer by phasing out ozone depleting compounds. These are responsible for harm to the stratosphere. The global agreement opened a flood of options into the marketplace for safer cleaning materials and that green revolution continues today.

Q: Can you explain COD, BOD, and the difference between them?

A: BOD is biological oxygen demand, or the oxygen required by aerobic biological organisms to decompose inorganics in water. It's measured in milligrams per liter just like COD which is chemical oxygen demand. It also is measuring the amount of oxygen required by chemical reaction to decompose organics and some organics in solution. As such, the COD will always be higher than the BOD. The simple difference between the two is the BOD is decomposition by bugs, essentially, and the COD is the composition by chemical reaction.

Q: Why is COD and BOD important?

A: It's the best measure of organic loading in a particular body of water typically used for measuring the estimated pollution of a stream or body of water in a measure of milligrams per liter of oxygen required.

Q: How do most users of inline aqueous spray cleaners running your chemistry manage the discharge of chemical isolation water and spent wash bath from their cleaners?

A: Ahead of this presentation I surveyed some customers for my high production board shops and of those 4, 3 disposed directly to drain with both the chemical isolation stream and their spent wash charges. This of course is under permit and was with auditing done routinely, typically monthly sampling, and audits done semi-annually by the EH&S service, whether it's internal or external. The last facility is a super fun site that was designated in 1987 so they continue to drum up their spent wash solution or on site as it is treatment and disposal. The chem iso still goes down to drain.

Q: You said something about alkaline extremes, what did you mean by that?

A: In general, POTW's have a range of pH that is acceptable for discharge to their facilities and that range is somewhere between 6 and 9 or 5 and 9, but the concern comes when the pH is out of that range. At least neutralization is required, if not other precautions before permenting and sending to drain.