

Technical Bulletin #002: Pollutant Removal Using OMNI-TRAP™

Most of the basics involving the use of OMNI-TRAP™ are covered in the data sheet. Very high ionic concentrations (5,000 ppm or more) may require several passes of dilution for complete heavy metal removal. We have encountered some problems in removing chelated (sequestered) ions from solutions. Breaking the chelate first will allow complete removal. The best way appears to be by passing the chelated solution through a bed of iron fillings or steel wool. The pH should be @ 3-4 and a minimum contact time of 2 minutes. The bed media is now iron chelate (Citrinate DETA, etc.) and is considered nonhazardous. Most labs are accumulating spent OMNI-TRAP™ cartridges in drums prior to final disposal. The going rate is about \$150.00/drum for transportation and secure landfill burial.

Some highly stable emulsions will pass through an OMNI-TRAP™ without complete removal. Emulsion destabilization using salt or acids or flocculation using OMNI-FIX™ prior to passing through OMNI-TRAP™ will usually take care of this.

NOTE: Free ammonium ion (NH₄OH, etc.) will completely deactivate OMNI-TRAP™ media. Neutralization to an acidic pH (5 or less) will overcome this. When using an OMNI-TRAP™ for solvent removal or any toxic material having fumes, should be done in a hood.

OMNI-TRAP™ will NOT remove water soluble organics such as formaldehyde, alcohols, ketones, glycols, amines, etc. Solutions containing these materials can still be treated to remove heavy metals and insoluble organics at an acidic pH.

We have encountered some water-soluble dyes and very fine particulate dispersions that are not removed in a single pass. Prior flocculation, oxidation, or multiple passes are methods to try. OMNI-TRAP™ media that has been standing dry will start to solidify and fixate. Moistening the media periodically when not in actual use may prevent this.