

WATER SPECIALISTS TECHNOLOGIES LLC

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CP-PLUS PRECIPITANT

CP-PLUS is a powerful organic sulfur precipitant with inorganic salt additives. These catalytic additives dramatically improve the precipitation effectiveness, speed, dosing control and settling characteristics. The precipitating reaction forms insoluble metallic compounds with minimal sludge generation. This product contains no disulfides.

APPLICATIONS: **CP-PLUS** can be used wherever ionic metals in solution require precipitation and removal. It is particularly effective in breaking chelators and other compounds which complex metallic ions making them resistant to conventional hydroxide precipitation. To do your own bench-scale jar tests with **CP-PLUS**, ask for a free sample.

pH CONTROL: Although **CP-PLUS** is non-pH dependent, precipitating reagents are most effective in the range of pH 7 to 9. Since this is the general range for acceptable discharge to sewer, adjust the pH prior to adding precipitating reagent. When precipitating heavily chelated nickel, a pH of 12.5 may be required to obtain the best results.

DOSING CRITERIA: To determine the approximate dosage of **CP-PLUS** required for treatment, use the following formula:

$$\begin{aligned} &(\text{PPM Ionic Metal}) \times (\text{Gallons to be treated}) \times (0.043) \\ &\text{Equals } \underline{\text{Milliliters}} \text{ of } \mathbf{CP-PLUS} \text{ required, } \pm 10\%. \end{aligned}$$

NOTE: The dosage can be lowered when some of the metals are precipitated as hydroxides during pH adjustment. For example, a 1,000 gallon waste stream, after pH adjustment, containing 10 ppm Copper, 4 ppm Tin, 5 ppm Lead, and 6 ppm Nickel, has a total of 25 ppm ionic chelated or complexed metals. The dosage, using the above formula, is as follows:

$$25 \times 1,000 \text{ gallons} \times (0.043) = 1.0 \text{ liter } \mathbf{CP-PLUS}$$

MEMORANDA

•Oxidizers in the waste stream, such as chlorine, peroxide, permanganate, persulfate, etc., will decrease the effective strength of Precipitating Reagents. Oxidizers should be eliminated from the wastewater via Sodium Sulfite, Bisulfite, or **CR-20**. Also remove cyanide and reduce hexavalent chromium, if present, from the waste stream before the precipitation process. Exhaust ventilation is required for all chemical operations.

•**CP-PLUS** may not be compatible with your present flocculant. This can be easily determined via test. If not compatible, **CP-PLUS** should be added to the waste stream separately.

•In a full scale installation, **CP-PLUS** should be dosed by means of an electronic dosing system which includes an ion specific electrode, reagent controller and metering pump. Ask for our product information bulletin on REAGENT CONTROL SYSTEMS.