

DIMET™

HEAVY METAL PRECIPITANT

Dimet is a heavy metal precipitant used to remove metals from wastewater streams. It is particularly useful in the treatment of wastewater from plating operations. The product is effective over a wide pH range and, when used as recommended, provides nearly complete precipitation of metals even in the presence of other chelating or sequestering agents.

Dimet is composed of a 40% aqueous solution of sodium dimethyldithiocarbamate. The sludge cake produced from its use as a heavy metal precipitant is compact, highly insoluble and easily dewatered. Its low solubility means that it is less susceptible to leaching.

TYPICAL PROPERTIES

Density At 25°C (77°F)	1.16g/ml
Approximate Weight per U.S. Gallon	9.8 lb
Approximate Volume per Kilogram	947ml
Approximate Volume per Pound	385 ml
pH (neat)	11-13
pH (100 ppm In Water)	8-9
Flash Point	Above 100°C (212°F)

APPLICATION

The weight of **Dimet** equivalent to a unit weight of metal ion is approximately equal to 358 times the metal ion valence divided by the atomic weight of the metal. Table 1 shows the concentration of **Dimet** equivalent to 1.0 mg/L (1 ppm) of various metal ions. The recommended dosage for complete precipitation of a metal is 10 to 30% in excess of the stoichiometric equivalent. For example, the equivalent for Cu^{+2} is 11.3 parts by weight of **Dimet** per 1.0 part of Cu^{+2} but about 13 parts of **Dimet** would be needed for complete precipitation. For best results, the required concentration for a given application should be determined by laboratory tests. If practical, adjustment of the pH to values between 7 and 9 can often help improve the effectiveness of the precipitant.

Dimet can be added continuously or batch-wise as required. The treated effluent should be agitated, usually for at least one hour, and then allowed to settle. Cationic polyelectrolyte flocculants can be used to improve the efficiency of the separation of the precipitate from the liquid.

TABLE 1
DIMET/METAL ION
STOICHIOMETRIC EQUIVALENTS

Metal Ion	Dimet Equivalent Concentration
Ag^{+1}	3.3
Au^{+1}	1.8
Au^{+2}	3.6
Au^{+3}	5.4
Cd^{+2}	6.4
Co^{+2}	12.1
Cr^{+3}	20.7
Cu^{+2}	11.3
Fe^{+2}	12.8
Hg^{+2}	3.6
Hg^{+1}	1.8
Mn^{+2}	13.0
Ni^{+2}	12.2
Pb^{+2}	3.5
Zn^{+2}	11.0

PACKAGING AND HANDLING

Dimet is a water-soluble liquid available in bulk, drums, and totes. Materials of construction suitable for storing and handling the product include stainless steel, polyethylene, polypropylene, neoprene, viton, teflon and molded nylon. Contact of **Dimet** with copper alloys should be avoided.

Improper handling of this product can be injurious to workers. Observe all safety precautions shown on the product label and in the material safety data sheet.

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