

## **Special Waste**

### **Converting WET –Soluble Concentrations in mg/L to mg/kg**

#### **Solid and Nonmillable/Nonfilterable Wastes**

##### **Using the 10x Factor for Special Wastes**

Reference: Section 66261.122(a)(1) and (2), Chapter 11, Title 22, CCR

On solid (type i) and nonmillable/nonfilterable wastes, such as tarry (type iii) wastes, multiply the WET result (mg/L) by 10 to convert the results to milligrams per kilogram of waste.

Example E: 75 mg/L of WET-soluble lead is present in a filter cake  
2000 mg/kg total amount of lead present in waste  
Meets all other special waste criteria in Section 66261.122  
STLC = 5 mg/L and the TTLC is 1000 mg/L

**75 x 10 = 750 mg/kg of WET-soluble lead present in the filter cake**

Conclusion: WET-soluble lead in the waste is > STLC  
Total concentrations of Lead in waste is > TTLC  
WET-soluble lead when converted to mg/kg is < TTLC  
**Qualifies for classification as a Special Waste and may request DTSC for special waste classification**

Example F: 105 mg/L of WET-soluble lead is present in a filter cake  
2000 mg/kg total amount of lead present in waste  
Meets all other special waste criteria in Section 66261.122  
STLC = 5 mg/L and the TTLC is 1000 mg/L

**105 x 10 = 1050 mg/kg of WET-soluble lead present in the filter cake**

Conclusion: WET-soluble lead in the waste in mg/L is > STLC  
Total concentrations of Lead in waste is > TTLC  
WET-soluble lead when converted to mg/kg is > TTLC  
**Does NOT qualifies for classification as a Special Waste**

#### **The Rationale:**

Section 66261.122 describes criteria and requirements for classification as a special waste. One of the criteria in section 66261.122(a)(1) is that the waste is a solid waste.

In the WET procedures there is a 1:10 ratio of waste sample to extracting fluid – the 10x Factor.

In the WET procedures, a 50 gram sample of waste is mixed with 500 milliliters of extracting liquid. It is allowed to extract for 48 hours and then the extractant fluid is analyzed for the constituent and is measured in milligram of constituent per liter of extracting fluid. Refer to WET Tip #1 for the math explanation.

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## Converting WET –Soluble Concentrations in mg/L to mg/kg

### Multiphasic Waste

#### When the 10x Factor Doesn't Work for Special Wastes

Reference: Appendix II(c)(2), Chapter 11, Title 22, CCR

On waste that consists of liquids and solids (type ii) with  $\geq 0.5\%$  solids, multiplying the analytical result (mg/L) by the 10x Factor does **NOT** convert the results to milligrams per kilogram of waste automatically. The final dilution factor (multiplication factor) will be less than 10 for type ii waste.

In order to convert the WET-soluble result (mg/L) to milligrams per kilogram of waste, additional laboratory information is needed to determine the final dilution factor. Specifically, the Initial Filtrate liquid volume, the extraction fluid volume and sample weight are needed to convert the WET-soluble result to milligrams per kilogram of waste.

#### The Rationale:

Refer to WET Tip # 2 and #4 for the relationship between the WET and type ii waste. The following equation may be used to convert WET-soluble results (mg/L) into milligrams per kilogram of waste:

To convert WET-soluble results from type ii waste:

$$\frac{\text{mg of WET soluble constituent}}{\text{L}} \quad \times \quad \frac{\text{final volume in (L)}}{\text{sample weight (kg)}}$$

where:

$$\frac{\text{mg of WET soluble constituent}}{\text{L}} = \text{Laboratory Results for the WET}$$

final volume in L = Initial Filtrate volume + extraction fluid volume\*

sample weight = sample weight used to perform laboratory analyses

\*Note: extraction volume determined for by a 1:10 ratio. For each gram of waste, 10 mL of extractant is used.

## Special Waste

### Converting WET –Soluble Concentrations in mg/L to mg/kg

Example G:

Water-based sludge consisting of 30% water  
75 mg/L of WET-soluble lead is present in the sludge  
2000 mg/kg total amount of lead present in the sludge  
Initial Filtrate volume = 15 mL  
Extraction Fluid volume = 350 mL  
Sample Weight = 50 g  
Meets all other special waste criteria in Section 66261.122  
STLC = 5 mg/L and the TTLC is 1000 mg/L

To convert WET-soluble results from type ii waste:

$$\frac{\text{mg of WET soluble constituent}}{\text{L}} \quad \times \quad \frac{\text{final volume in (L)}}{\text{sample weight (kg)}}$$

$$75 \text{ mg/L} \times (15 \text{ mL} + 350 \text{ mL})/50 \text{ g}$$

$$75 \text{ mg/L} \times 0.365\text{L}/0.50 \text{ kg} = 547.5 \text{ mg of WET-soluble lead /kg of sludge}$$

Conclusion: WET-soluble lead in the waste is > STLC  
Total concentrations of Lead in waste is > TTLC  
WET-soluble lead when converted to mg/kg is < TTLC  
**Qualifies for classification as a Special Waste and may request DTSC for special waste classification**

Example H: Water-based sludge consisting of 30% water  
105 mg/L of WET-soluble lead is present in the sludge  
2000 mg/kg total amount of lead present in the sludge  
Initial Filtrate volume = 15 mL  
Extraction Fluid volume = 350 mL  
Sample Weight = 50 g  
Meets all other special waste criteria in Section 66261.122  
STLC = 5 mg/L and the TTLC is 1000 mg/L

To convert WET-soluble results from type ii waste:

$$\frac{\text{mg of WET soluble constituent}}{\text{L}} \quad \times \quad \frac{\text{final volume in (L)}}{\text{sample weight (kg)}}$$

$$105 \text{ mg/L} \times (15 \text{ mL} + 350 \text{ mL})/50 \text{ g}$$

$$105 \text{ mg/L} \times 0.365\text{L}/0.50 \text{ kg} = 766.5 \text{ mg of WET-soluble lead /kg of sludge}$$

Conclusion: WET-soluble lead in the waste in mg/L is > STLC  
Total concentrations of Lead in waste is > TTLC  
WET-soluble lead when converted to mg/kg is < TTLC  
Qualifies for classification as a Special Waste and may request DTSC for special waste classification

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