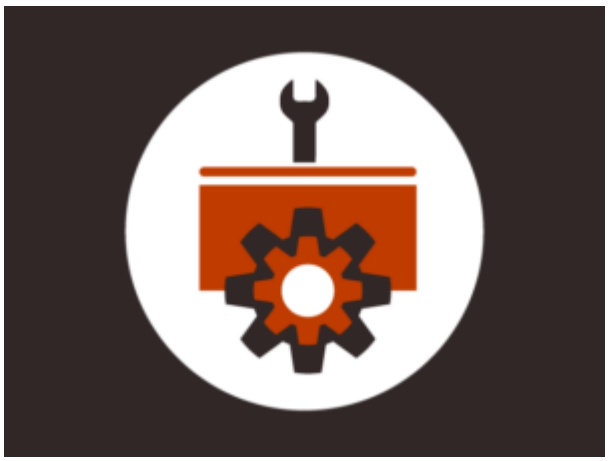
Dip Tank Standards – Quick Tips



When coating metals, stripping furniture, repairing vehicles, servicing aircraft or tanning leather, dip tanks may be a necessary part of the process. A dip tank is a container holding a liquid other than water that is used for dipping or coating. An object may be immersed (or partially immersed) in a dip tank or it may be suspended in a vapor coming from the tank. The liquid chemicals used in dip tanks are often dangerous, posing both a safety and health risk. These liquids include flammables such as acetone, corrosives such as cyanide and chromic acids and chronic toxins such as perchloroethylene and methylene chloride.

The Occupational Safety and Health Administration (OSHA) regulations that address the safe use of dip tanks are located in 29 Code of Federal Regulations (CFR) 1910.122 through 1910.126. 29 CFR 1910.122 is the table of contents for sections 1910.123 through 1910.126. It also contains a summary of applicable questions and answers which are used to qualify compliance. Section 123 of the dip tank standard clarifies who is covered and what operations are covered.

1910.123 Dipping and Coating Operations: Coverage and Definitions

(a) Does this rule apply to me? (1) This rule (1910.123 through 1910.126) applies when you use a dip tank containing a liquid other than water. It applies when you use the liquid in the tank or its vapor to:
(a)(1)(i) Clean an object;
(a)(1)(ii) Coat an object;
(a)(1)(iii) Alter the surface of an object; or
(a)(1)(iv) Change the character of an object.

(b) What operations are covered?
Examples of covered operations are paint dipping, electroplating, pickling, quenching, tanning, degreasing, stripping, cleaning, roll coating, flow coating and curtain coating.

(c) What operations are NOT covered?
You are not covered by this rule if your dip-tank operation only uses a molten material (e.g., molten metal, alloy, or salt).

The following checklist applies to dip tanks and any vapor area containing dangerous quantities of flammable vapors addressed in 29 CFR 1910.124 – 126. Although this checklist is not all-inclusive, it may be used as a general hazard-assessment tool.

QUESTIONS	YES	NO	N/A
Does the ventilation provided to the vapor area in the vicinity of the dip tank keep the airborne concentration of any substance below 25% of its lower flammable limit? [29 CFR 1910.124(b)(1)]			
Are exhaust ventilation systems well-constructed and in good working order? [29 CFR 1910.124(b)(4)]			
Are dip tank operations controlled so exposures are maintained within required limits? [29 CFR 1910.124(b)(2)]			
When two or more dip tank operations are ventilated by a common exhaust duct, is care taken to ensure that the mixture of contaminants generated does not present a fire, explosion, or chemical reaction hazard? [29 CFR 1910.124(b)(6)]			
Are instructions given to all persons who work on or around dip tanks about hazards			

and applicable first aid procedures? [29 CFR 1910.124(f)]			
Are deluge showers and eye wash stations provided near dip tank operations? [29 CFR 1910.124(g)(2)]			
Are washing facilities provided nearby for users of dip tanks? [29 CFR 1910.124(g)(3)]			
Is locker space or an equivalent clothing storage facility available to prevent contamination of street clothing? [29 CFR 1910.124(g)(1)]			
Are first aid supplies readily available and are they specific to the hazards associated with the dip tanks being used? [29 CFR 1910.124(h)(3)]			
Are dip tanks, including any drain boards, constructed of noncombustible materials? [29 CFR 1910.125(a)]			
For dip tanks over 150 gallons in capacity or 10 square feet in liquid surface area, does a properly trapped overflow pipe lead to a			

*download pdf for full checklist

Frequently Asked Questions

Q: What is a flammable liquid?

A: A flammable liquid is any liquid having a flashpoint at or below 199.4°F (93°C). A flashpoint is the temperature at which a liquid gives off enough flammable vapors to form a mixture with air that can be ignited by contact with a hot surface, spark or flame.

Q: What are the differences between a dip tank, wash tank and rinse tank?

A: Dip tanks, wash tanks and rinse tanks are all safe solutions for parts cleaning.

Dip tanks and wash tanks are used for cleaning parts where the volume of work does not warrant a larger rinse tank. Dip tank capacities generally range from one-gallon to eight-gallons. Wash tanks are sized exactly like the dip tanks and they include a parts basket to facilitate washing multiple small parts.

Sources

OSHA 29 CFR 1910.122-126

Source: Grainger Know How – https://www.grainger.com/know-how