

### **3.10.1 Paint Formulating/Manufacturing**

*Tip Sheet #1*

**WASTE ORIGIN:** Unloading Materials into Mixing Tanks

**WASTE TYPES:** Leftover Raw Materials and Containers

**WASTE REDUCTION AND RECYCLING METHODS:**

- ! **Purchase pre-weighed** hazardous materials.
  - ! Quality check incoming **raw material**.
  - ! Install high level **shutoff and flow totalizers** with cutoff.
  - ! **Purge pipelines** before disconnecting when filling tanks.
  - ! Use **reusable/recyclable drums** with liners
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**WASTE ORIGIN:** Unloading Pigment

**WASTE TYPE:** Pigment Dusts and Leftover Pigment in Packages

**WASTE REDUCTION AND RECYCLING METHODS:**

- ! Use **non-hazardous pigments**.
- ! Use **non-mercury bactericides**.
- ! Use **paste/slurry form** pigments.
- ! Use **high solids formulations**.
- ! Modify **bulk storage tanks** (e.g., use conservation vents, floating roof, nitrogen blanketing, refrigerator condensers, lean-oil or carbon absorbers, vapor compressors).
- ! Install dedicated **baghouse systems**.
- ! **Segregate waste** pigments so they can be reworked.
- ! Use water soluble **bags and liners**.
- ! Use recyclable, lined, or dedicated **containers**.

**Sources:**

*Guides to Pollution Prevention: The Paint Manufacturing Industry*, U.S. EPA, June 1990, EPA/625/7-90/005.

Fact Sheet: *Waste Reduction for Paint Formulators*, CA DHS, Alternative Technology Division, December 1989.

### **3.10.1 Paint Formulating/Manufacturing**

*Tip Sheet #2*

**WASTE ORIGIN:** Color Matching

**WASTE TYPES:** Off-spec Materials

**WASTE REDUCTION AND RECYCLING METHODS:**

- ! **Blend** into new products.
  - ! **Test batch** formulation in lab.
  - ! Sell at a **discount**.
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**WASTE ORIGIN:** Grinding and Mixing

**WASTE TYPE:** Spills and Off-spec Paint

**WASTE REDUCTION AND RECYCLING METHODS:**

- ! Increase use of **automation**.
  - ! Use appropriate **cleanup methods**.
  - ! **Recycle** back into process.
  - ! Employee **training**.
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**WASTE ORIGIN:** Filtering

**WASTE TYPE:** Spent Filter Cartridges and Bags

**WASTE REDUCTION AND RECYCLING METHODS:**

- ! Use the **smallest cartridge** possible.
  - ! Use **bag or metal mesh** filters.
  - ! **Reuse** filter bags.
  - ! Improve **pigment** dispersion.
  - ! Increase dedication of **filling units**.
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**Sources:**

*Guides to Pollution Prevention: The Paint Manufacturing Industry*, U.S. EPA, June 1990, EPA/625/7-90/005.

Fact Sheet: *Waste Reduction for Paint Formulators*, CA DHS, Alternative Technology Division, December 1989.

## **3.10.1 Paint Formulating/Manufacturing**

*Tip Sheet #3*

**WASTE ORIGIN:** Equipment Cleaning

**WASTE TYPES:** Waste Rinsewater, Waste Solvent, and Paint Sludge

### **WASTE REDUCTION AND RECYCLING METHODS:**

- ! Schedule production to **minimize cleaning needs** (e.g., light-to-dark batch sequencing).
- ! Increase size of production run.
- ! Avoid **unnecessary cleaning**. Explore eliminating cleaning steps between batches. Disperse pigments only before a batch formulation.
- ! Prevent **paint from drying** in tanks.
- ! **Clean equipment immediately** before paint dries.
- ! Use **mechanical wipers** on mix tanks.
- ! Use **high-pressure, low-volume wash** systems.
- ! Install more **efficient mills** that do not require multi-pass dispersions.
- ! Install **liners** on mix tanks.
- ! Use **foam/plastic "pigs"** to clean lines.
- ! Use **alternative cleaning agents** (e.g., water-based).
- ! Reuse equipment **cleaning wastes**. Collect solvent and use in next compatible batch of paint as part of formulation.
- ! **Collect solvent** and re-distill.
- ! Use **countercurrent rinse** methods.
- ! Increase **spent rinse settling time** or use de-emulsifiers on spent rinses to allow continued use.
- ! **De-water sludge** by filtration or centrifugation to allow continued use of cleaning solution.

### **Sources:**

*Guides to Pollution Prevention: The Paint Manufacturing Industry*, U.S. EPA, June 1990, EPA/625/7-90/005.

Fact Sheet: *Waste Reduction for Paint Formulators*, CA DHS, Alternative Technology Division, December 1989.