

Paint stripping

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Trade waste discharges from companies conducting paint stripping could harm the sewerage system. Used waters may contain suspended solids, volatile solvents and heavy metals such as lead and zinc. Appropriate management practices at each site are needed.

For the purpose of this guideline, 'paint stripping' refers to the process of using chemical means to remove paint, varnish, undercoat or other coatings for the purpose of restoration or refinishing. The guideline applies to antique restorers, furniture restorers, French polishers, building restoration and machinery/aircraft paint removers.

Key trade waste quality requirements

Parameter	Generally accepted level
pH	Between 7 and 9 units
Suspended solids	≤500 mg/L
Total dissolved solids	≤1500 mg/L
Heavy metals (e.g. Lead, Zinc etc)	≤10 mg/L
Flow rate to sewer	Dependant on capacity of receiving sewer

Note: Discharge limits may be varied under certain circumstances for individual dischargers

Typical pre-treatment

- Operators may choose to contain all wastewaters in a blind tank, as per the [Bunding and Blind Tank Guideline](#) for removal by a licensed liquid waste contractor.
- Waste concentrates from process tanks are contained in a blind tank for removal by a licensed liquid waste contractor.
- Only wastewaters from the **wash down after treatment** are directed to sewer via the approved pre-treatment device. Articles must be well drained prior to this step, to reduce the carryover of process solution.
- All tanks and containers holding process liquors, oils, wastewaters or chemical solutions are banded as per the [Bunding and Blind Tank Guideline](#).
- Large solids are screened via a 225mm silt trap fitted with a 2mm mesh basket, including a fixed secondary strainer with maximum 2mm hole size or similar device located at the low point of the wash bay floor.

- Screened used water undergoes additional pre-treatment before discharge to sewer, to remove fine solids and dissolved heavy metals. This may include pH correction and polymer addition before settling in clarifier/tank.

Additional pre-treatment

- Dewatering of accumulated solids using a filter or belt press.
- Additional treatment may be required as per the [Batch Treatment Guideline](#).

Batch treatment examples

Example 1: caustic soda process

- Residual sodium hydroxide stripper raises used water pH over 10. This is responsible for the high levels of dissolved metals in the screened used water.
- Reducing the pH to the specified range precipitates these metals. Addition of polymer allows them to settle with other solids.
- The use of acids for restoring colour to stripped timber benefits the pH balance, but additional acid dosing is usually needed to balance the residual sodium hydroxide.
- Alum (aluminium sulphate) solution is preferred for acid dosing, as it is relatively safe to handle and helps coagulate fine solid particles.

Procedure

1. Pump used water to above ground treatment tank.
2. When full, add **alum solution** to treatment tank until **pH is between 7.0 and 9.0**.
3. Add proprietary polyelectrolyte to aid flocculation and settling.
4. Allow settling overnight before checking that residual **lead and zinc** levels in the clear portion (using test strips) are within permitted limits before discharge to sewer.
5. The lower portion containing sludge is pumped to holding tank for drying in air. Dried sludge is removed by a licensed waste contractor together with the coarse paint screenings for off-site treatment.

Example 2: methylene chloride process

- Use of methylene chloride/methanol/wax mixtures typically produces easily treated used water.
- It is common practice to also use Tri-Sodium Phosphate (TSP) or similar chemical for a neutraliser or final cleanup step. This interferes with solids settling, so additional treatment is needed.

Procedure

1. Pump used water to above ground treatment tank.

2. When full, add calcium chloride solution until coagulation of solids is observed (this step removes the inhibiting effect of TSP).
3. Adjust **pH to within 7.0 to 9.0** using builders' lime if low or alum solution if high.
4. Add proprietary polyelectrolyte to aid flocculation and settling.
5. Allow settling overnight before checking that residual **lead and zinc** levels in clear portion (using test strips) are within permitted limits, before discharge to sewer.
6. The lower portion containing sludge is pumped to a holding tank for drying in air. Dried sludge is removed by a licensed waste contractor together with the coarse paint screenings for off-site treatment.

More information

Mains Water Protection (AS/NZS 3500.1:2015)

[Backflow Prevention Requirements - Office of the Technical Regulator](#)

[Restricted Wastewater Acceptance Standards](#)