Small craft brewery/ distillery

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Trade waste discharges from breweries and distilleries could harm the sewerage network. The waste might have a low pH value (acidic), contain high levels of solids and very high levels of Biochemical Oxygen Demand (BOD).

For the purpose of the guideline, 'Small craft brewery/ distillery' refers to premises producing up to 200 kilolitres of beer per annum or 50 kilolitres of any spirit per annum.

For any size of brewery or distillery who discharge 8 megalitres of wastewater to sewer per annum, or 8 tonnes of BOD, Suspended Solids (SS) per annum or 16 tonnes of Total Dissolved Solids (TDS) per annum then you will be issued a Volume & Load Based Charging (VLBC) type discharge authorisation and you should refer to this document for your specific trade waste management requirements.

Key trade waste quality requirements:

Parameter	Generally accepted level
Biochemical oxygen demand	≤ 2000 mg/L
Suspended solids	≤ 500 mg/L
Grease/oil	≤ 100 mg/L
Total dissolved solids	≤ 1500 mg/L
Temperature	≤ 38°C
Copper	≤ 10 mg/L
Nutrients (Nitrogen/ Phosphorus)	Dependant on the receiving sewerage treatment plant
Flowrate to sewer	Dependant on the receiving sewerage network

Note: Discharge limits may be varied under certain circumstances for individual dischargers. Please refer to our Restricted Wastewater Acceptance Standards for our other main discharge limits.

High strength waste:

Any high strength (High BOD) waste produced within the process must be removed from site for alternative disposal and must **not** be discharged to sewer. Only equipment wash waters should be discharged to sewer.

We regard the following solids, slurries or liquids as high strength waste:

- Spent grain waste,
- Spent yeast waste,
- Spent starch source waste,
- Spent wash/ pot ale/ leas,
- Filtration sediment,
- Filter media slurry,
- Trub,
- Waste fermentation product
- Feints (Distillation heads/ tails),
- Spoilt/ waste product.

There are a number of options that should be pursued for alternative disposal of high strength waste such as animal feed agreements, as a fertiliser, mushroom farming media, anaerobic co-digestion, composting or landfill.

For facilities who believe that their spent wash/ pot ale/ leas can meet the key trade waste quality requirements discharge should be in line with the SA Water 'Batch Treatment' guideline. Following successful initial sampling and waste profiling the spent wash/ pot ale/ leas should be collected in a separate, appropriately sized batch discharge receiver for sampling prior to discharge to sewer.

Best practice management:

- Storage of high strength waste and final product should be in bunded areas to prevent any spillage discharging to sewer
- Any spillage of dry grain or starch source should be swept up to solid waste and not washed to drain to prevent the leaching of starch/ sugar into waste water
- Appropriate controls and procedures should be in place to prevent accidental discharge of product to drain during production runs
- Packaging areas should have catch trays, bunding or blind pits in use to prevent any spillages discharging to sewer
- Accurate record keeping should be kept and all required quarterly reports should be provided to your trade waste officer in a timely manner in line with your trade waste discharge authorisation

Typical pre-treatment:

The typical pre-treatment requirements for small breweries and distilleries are:

- Appropriate screening of gross solids such as:
    - Silt trap with maximum hole size of 3mm with a fixed secondary strainer of maximum 3mm hole size (Possibly in conjunction with a strip drain)
    - Mechanical filters or sieves for the removal of botanicals where required
- Appropriate screening for the removal of fine solids such as:
    - Solids settling pit appropriately sized for discharge flowrate to allow a minimum of 1 hour retention time within device. (Fine solids may take longer and will be assessed by SA Water trade waste)
    - Rotating drum screen with appropriate mesh sizing
    - Mechanical filters such as bag filters/ cartridge filters
- pH adjustment system:
    - Automatic pH adjustment systems are desired as best practice
    - For small facilities using manual pH adjustment of each batch of wash waters, a waste management plan should be provided and approved by SA Water trade waste and accurate records should be kept of each discharge using the Manual pH adjustment record sheets and provided to SA Water as part of your quarterly reports
- Grease arrestor – An appropriately sized grease arrestor will be required for any facilities who are running a commercial kitchen on site. Refer to our Commercial Food Preparation and Service guideline for more information

Additional requirements:

- Evidence of high strength waste removal should be retained for a minimum of 2 years and provided as part of your quarterly report or on request during audits
- Quarterly trade waste reports should be provided to SA Water within 7 days of the end of each quarter year
- Settling pits and grease arrestors should be maintained/ serviced at the required frequency stated within your trade waste discharge authorisation
- Electronic effluent flow metering is desirable for all breweries/ distilleries but not mandatory for all facilities within our definition of small. Facilities without flow metering must ensure all manual pH adjustment records are up to date and supplied with their

end of quarter data. In some circumstances, small breweries/ distilleries may be required to install a mandatory electronic flow meter.

- Electronic monitoring of pH and/ or conductivity may be required dependant on your risk profile as calculated by SA Water trade waste

More information

Mains Water Protection (AS/NZS 3500.1:2025)

Backflow prevention - containment protection