Trade Waste

Acceptance criteria for trade waste – Pub 6

Acceptance criteria for trade waste

The Water Corporation's wastewater system is designed primarily to treat domestic wastewater. However compatible trade waste is accepted where system capacity is available.

Individual assessments

We individually assess your business when you apply for a trade waste permit. We identify what you need to do to make sure your trade waste discharge is suitable for discharge to the wastewater system and we incorporate these requirements into your permit conditions.

Pre-treatment

To meet our acceptance criteria, we may require you to pre-treat your wastewater before it is discharged to sewer.

Why do we have acceptance criteria?

Non-compliant discharges can result in:

- A threat to the health and safety of workers within the wastewater system;
- Damage to the fabric of the wastewater system;
- Inhibition of the biological processes at our wastewater treatment plants;
- The presence of contaminants in treated wastewater or biosolids that compromise reuse of these products; or
- The presence of contaminants in treated wastewater that are inappropriate for discharge to the environment.

Substances subject to acceptance criteria

The types of wastewater contaminants that we must limit in the system, their potential impacts, and our general approach to controlling them are summarised below. The limits for specific contaminants and wastewater physical characteristics are provided in the tables at the end of this document.

Biochemical Oxygen Demand (BOD)

BOD is a measure of organic content. Wastewater with high organic content can overload our treatment plants.

Wastewater with excessive BOD can lead to hydrogen sulphide gas within the sewers. This toxic gas is dangerous for our workers and creates odour problems. It also causes corrosion of the fabric of our sewers, pump stations and treatment plants.

Suspended Solids (SS)

Suspended solids can accumulate within sewers and pump stations, leading to blockages, failures and overflows. Suspended solids also result in excessive loading at treatment plants. Pretreatment can range from simple gravity settling to chemically assisted removal using dissolved air flotation (DAF) units.

Fats, Oil and Grease (FOG)

Fats, oil and grease merge and solidify in the sewer as it cools and causes blockages and overflows. Oily residues can affect water level sensors and pump switches and cause them to fail. This can cause wastewater overflows. Large amounts of FOG can also interfere with wastewater treatment processes.

We control FOG wastes by pre-treatment at the source. This means a grease trap for commercial kitchens or an oil separator in automotive trades. More complex pre-treatment may be required for larger businesses.

Heavy metals

Metals entering our system are not destroyed and will ultimately re-enter the environment.

Excessive amounts of heavy metals can inhibit our biological treatment processes and **can affect re-use** options.

Extremes in pH

Excessive acidity or alkalinity cause corrosion of our sewer system and pump stations, resulting in extensive damage across a wide area. High levels also pose a danger to our wastewater system workers. We require neutralisation of extremes of pH prior to discharge.

Temperature

Hot water can flush grease and other deposits into the wastewater collection system, where it cools, precipitates and and causes blockages.

Flammable Liquids

Flammable or volatile liquids can cause fires or explosions in wastewater systems and are a danger to our workers. Discharge into the sewer system is not permitted.

Radioactive Substances

Disposal of radioactive wastes is regulated by the Radiological Council of WA. Discharges are only accepted once approval is first obtained from the Radiological Council.

Infectious Substances, Pharmaceuticals and Cytotoxic Wastes

Infectious wastes, pharmaceuticals and cytotoxic wastes are subject to strict supervision and controls. Guidelines for the disposal of clinical and related wastes, are available at the Department of Health. With the exception of blood and body fluids, these wastes are not to be discharged to sewer.

Stormwater

Discharging stormwater to the sewer is not permitted. Stormwater flow is often high and exceeds the design capacity of urban sewer systems. Increasing the capacity to accommodate these high flows is uneconomic. It is standard practice to keep municipal stormwater and sewerage systems separate and prohibit the discharge of stormwater to sewers. Proposals for discharge to stormwater should be referred to the relevant local government authority or the Department of Water and Environmental Regulation.

Flexibility of acceptance criteria

The acceptance criteria are based on technical considerations of wastewater collection, treatment, disposal and reuse. Water Corporation exercises some flexibility in applying the criteria – relaxing or tightening the requirements in particular cases as the need arises.

Subtances not included in the acceptance criteria

The acceptance criteria include common subtances present in trade waste. For information on acceptabilty of other substances, contact tradewaste@watercorporation.com.au.

More information?

Email tradewaste@watercorporation.com.au or call 13 13 95

Section 1: Acceptance criteria for common waste components

Units mg/L - milligrams per litre
g/d - grams per day
kg/d - kilograms per day

For the purposes of this document, mg/L is equivalent to 'parts per million' (ppm).

Waste component	Criterion
Alkali and alkaline earth metals (sodium, potassium, calcium, magnesium)	1. Refer to limits for total dissolved salts 2. Limits to protect against scaling to be set on a case-by-case basis
Aluminium	100 mg/L Mass limits determined by system capacity
Ammonia	1. 200 mg/L as nitrogen when pH is not greater than 8 2. Case-by-case limits on pH if ammonia above 200 mg/L 3. Mass limits determined by system capacity
Biochemical oxygen demand (BOD5)	1. Mass limits determined by system capacity 2. Maximum concentration 3,000 mg/L 3. Discharge not to change overall C:N:P ratio of system
Boron	5 mg/L Mass limits determined by system capacity
Bromine and iodine	Sum of bromine and iodine not to exceed 10 mg/L
BTEX (benzene, ethylbenzene, toluene, xylenes)	Benzene 0.08 mg/L Ethylbenzene 1.0 mg/L Toluene 1.3 mg/L Xylenes 1.4 mg/L
Chloride	1. 15,000 mg/L 2. Mass limits determined by system capacity
Chlorine	10 mg/L as residual chlorine
Chemical oxygen demand (COD)	1. Mass limits determined by system capacity 2. Maximum concentration 6,000 mg/L
Colour	No discharge shall be permitted which contains colour which would interfere with wastewater treatment or disposal.
Cyanide	1. 3 mg/L weak acid dissociable cyanide 2. Limits on dissociable cyanide may be varied depending on composition of waste 3. Mass limits on total cyanide determined by system capacity
Flammable materials	Prohibited
Fluoride	30 mg/L Mass limits determined by system capacity

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Waste Component	Criterion
Glutaraldehyde	1. 1000 mg/L 2. Mass limits determined by system capacity
Heavy metals	Refer to Section 2
Iron	1. 10 mg/L 2. Mass limits determined by system capacity
Kjeldahl nitrogen	1. Mass limit determined by capacity of the system
Oil and grease (non-petrogenic)	1. No free or floating layers 2. No unstable emulsions 3. Maximum concentration of emulsified oil and grease 500 mg/L
Organic compounds	1. Organic liquids immiscible with water will not be accepted. 2. Limits to water-miscible compounds will be set on a case by case basis. 3. Only dilute solutions which pose no threat to the wastewater system will be accepted.
Total petroleum hydrocarbons (TPH)	30 mg/L
pH	6-10
Phenols	Limits set on a case-by-case basis
Phosphorus	Mass limit determined by system capacity
Radioactive materials	Prohibited above the safe limits prescribed by the Radiological Council of WA
Sulphate	Sum of sulphate, sulphite and thiosulphate not to exceed 600 mg/L as sulphur
Sulphide	5 mg/L
Sulphite	Sum of sulphate, sulphite and thiosulphate not to exceed 600 mg/L as sulphur
Suspended solids	1. No readily settleable solids which are likely to accumulate in the wastewater collection system 2. Mass limits determined by system capacity 3. Maximum concentration 1500 mg/L
Temperature	Maximum 38 C
Thiosulphate	Sum of sulphate, sulphite and thiosulphate not to exceed 600 mg/L as sulphur
Total dissolved solids	1. 20,000 mg/L 2. Mass limits determined by system capacity Mass loads associated with the first 600 mg/L of concentration will be excluded in determining a customer's compliance with the mass limit.

Section 2: Acceptance criteria for heavy metals

Beenyup, Subiaco & Woodman Point Wastewater Treatment Plants

- Where the daily mass discharged is below the mass treatment threshold specified in the table, no concentration limits shall apply.
- Where the daily mass discharged is above the mass treatment threshold specified in the table, the waste flow shall be treated prior to discharge to sewer to reduce the concentration of metal to not greater than that specified in the table.
- Mass limits will be set depending on system capacity.

Heavy metals: Acceptance criteria for large metropolitan WWTPs

Metal	Mass treatment threshold (g/d)	Concentration limit for daily mass load above the mass treatment threshold (mg/L)
arsenic	1	1
cadmium	1	1
chromium	30	3
copper	30	5
lead	30	1
mercury	0.1	0.01
molybdenum	1	5
nickel	6	3
selenium	1	1
silver	2	5
zinc	50	3

Discharges to wastewater treatment plants other than Beenyup, Subiaco and Woodman Point:

Limits shall be determined on a case by case basis.