

Liquid Trade Waste

Effects of untreated trade waste on the sewerage system



Definition

Liquid trade waste (LTW) is any discharge to a sewerage system other than domestic waste from a hand wash basin, shower, bath or toilet.

Central Coast Council is referred to as Council.

Introduction

This Fact Sheet is provided to assist you to treat and dispose of liquid trade waste in an efficient and approved manner.

For further information, please contact Council's Trade Waste Section on 4306 7900.

For LTW application forms, refer to www.centralcoast.nsw.gov.au.

Effects

Uncontrolled discharge of liquid trade waste into the sewerage system can cause serious problems to the sewerage infrastructure, environment and health and safety of workers and public.

High BOD (Biochemical oxygen demand)

- may accelerate the generation of hydrogen sulphide in sewer mains, and consequently cause odours and corrosion problems
- may overload treatment units at the sewage treatment works
- may cause non-compliance with the sewage treatment plant licence conditions

Suspended Solids

- cause blockages and sewage overflows in the pipes of commercial and industrial properties
- form deposits in the sewer reducing its capacity, leading to overflow conditions
- accumulate in wet wells and pumping stations, resulting in reduced capacity and increased maintenance
- can deteriorate mechanical equipment (pumps and valves) by abrasion
- overload treatment units at the sewage treatment works

Grease and oil

- causes blockages and overflows in the pipes of commercial and industrial properties
- causes the formation of deposits of greasy solids in the sewage transportation system, thereby reducing its capacity. These deposits can lead to the breakaway of accumulated grease at times of high or very low flow
- accumulates in wet wells and pumping stations, causing blockages and pump failure
- deposits in bends of the sewer causing blockages and sewage overflows
- accumulates on screens at treatment facilities, causing blockages
- reduces the efficiency of sewage treatment processes



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- may cause non-compliance of the sewage treatment plant effluent with licence conditions
- forms an oily film in the receiving water if it has not been removed during the sewage treatment process

Low or high pH

- may injure people working in and around the sewerage system
- may cause corrosion of the sewer structure
- may upset biological treatment processes at the sewage treatment plant
- may cause the release of toxic gases such as hydrogen sulphide in case of low pH and ammonia in case of high pH

High temperature

- encourages volatile materials to be released from the sewage into the atmosphere
- increases the rates of chemical reaction within sewer mains, resulting in consumption of oxygen and high levels of noxious gases increasing odours
- promotes anaerobic conditions in sewer mains, as the solubility of oxygen decreases with the increase of temperature
- may cause damage to sewers, including loss of strength of plastic components

Heavy metals

- may inhibit sewage treatment processes
- accumulate in biosolids and therefore limit its beneficial reuse
- metal residuals discharged with the sewage effluent may pollute the environment, accumulate in marine organisms and move up the food chain

Nutrients

The term is used for substances necessary for the growth and reproduction of organisms, particularly nitrogen and phosphorus.

- A small increase in nutrient levels can cause nuisance algal growth in river and marine systems. Algae consume the oxygen in waterways and therefore threaten fish and plant life. Some algae, like blue green algae, can be toxic to humans and animals.
- High levels of nitrogen as ammonia may cause unsafe conditions in sewer mains and pumping stations.
- Rises in nutrient levels increase the operation and maintenance costs of the sewage treatment works.

Sulphur compounds

- Sulphites consume oxygen and may cause anaerobic conditions.
- Sulphates can be reduced to sulphides.
- Sulphides can cause odour and corrosion problems in sewers.
- Sulphides may result in the release of hydrogen sulphide gas, affecting the safety of workers.



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Detergents

- are toxic to aquatic organisms
- may cause foaming problems in sewers and sewage treatment works

Flammable substances

- can cause fires and explosions in the sewerage system

Cyanide

- is toxic to living organisms
- may produce toxic gas in the sewer

Phenolic substances

- may inhibit sewage treatment processes

Chlorinated solvents

- may inhibit sewage treatment processes
- are toxic to people working in and around the sewage system

Pesticides

- may inhibit sewage treatment processes
- may pass unchanged through the sewage treatment works and adversely affect the environment
- limit the beneficial reuse of the sewage treatment plant effluent and biosolids
- Organochlorine pesticides are persistent in the environment and accumulate in living organisms.



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