

Restricted substances

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Sewerage treatment removes solids and biologically breaks down organic contaminants. It cannot tolerate or effectively deal with all substances that might be discharged to sewer. Many substances could harm our sewerage collection/treatment systems or pass through untreated into the environment.

Corrosive or flammable substances or toxic chemicals such as cyanide are immediate hazards. Things as fat, grease, heavy metals are also hazardous. Even seemingly small shock-loads of milk, sugars and other biodegradable substances can greatly upset our processes.

Who releases restricted substances

Most businesses with an authorisation to discharge trade waste to sewer have potentially dangerous substances, ranging from small amounts of cleaning chemicals to large volumes of industrial process wastewater. Our Trade Waste team monitors the sewerage network and all customer operations where discharges to sewer could be hazardous.

Discharges must comply with authorisation conditions and our [Restricted Wastewater Acceptance Standards](#). We also consider the risk and size of the hazard which an accidental discharge would create, to ensure effective control measures are in place. These measures might be safe storage in accordance with our [Bunding and Blind Tanks Guideline](#), or [Electronic Monitoring and Data Collection Guideline](#).

Damage restricted substances cause the sewer

The following table gives examples of the effects that restricted substances can have on the sewerage system.

Acid (low pH)	<ul style="list-style-type: none"> • Corrosion • Affects biological processes • Dissolves toxic metal salts • Danger to maintenance workers • Liberates hydrogen sulphide (rotten egg) gasses
Alkali (high pH)	<ul style="list-style-type: none"> • Emulsifies grease • Affects biological processes • Danger to maintenance workers • Attacks joint seals in large sewer pipes • Liberates ammonia odours
Biodegradable material (BOD) in large quantity	<ul style="list-style-type: none"> • Overloads treatment plants • Creates odours and corrosion in sewers

Cyanide	<ul style="list-style-type: none"> • Toxic to maintenance staff • Toxic to biological processes • Very dangerous where acidic conditions exist
Fats, oils and grease	<ul style="list-style-type: none"> • Builds deposits on walls of sewers and treatment works creating blockages and affecting operations • Can upset treatment process • May not be completely removed by treatment processes
Heavy metals e.g. Cadmium, Zinc, Lead	<ul style="list-style-type: none"> • Toxic to treatment processes and life forms in receiving environments • Prevents beneficial use of treated bio-solids
Pesticides and herbicides	<ul style="list-style-type: none"> • Upset treatment processes • Harm operators and maintenance personnel. • Are not be completely removed by treatment process
Rainwater or stormwater	<ul style="list-style-type: none"> • Might overload the sewerage system, causing overflow of sewage to the environment or upsetting treatment processes
Sulphides	<ul style="list-style-type: none"> • Creates odours • Causes anaerobic conditions
Suspended solids	<ul style="list-style-type: none"> • Causes blockages • Overloads treatment plants • Creates anaerobic conditions under accumulated sludge, leading to corrosion and odours
Temperature	<ul style="list-style-type: none"> • Danger to maintenance workers • Accelerates harmful chemical and biological reactions • Causes thermal shocks which damage pipes • Liquefies and solubilises grease
Volatile substances	<ul style="list-style-type: none"> • Inflammables create dangerous or explosive conditions in confined spaces • Substances that don't mix with water form layers on surfaces and upset treatment processes • Chlorinated solvents are toxic and upset treatment processes