

**MATERIALS THAT MAY BE DISPOSED OF THROUGH THE
SANITARY SEWER SYSTEM**

Materials appropriate for sewer disposal in limited quantities must meet the following criteria:

- They are liquids and readily water soluble (at least 3%).
- Easily biodegradable or amenable to treatment by the waste water treatment process.
- Are simple salt solutions of low toxicity inorganic substances.

Chemicals that can be safely disposed of down the drain include biological compounds and cellular constituents such as proteins, nucleic acids, carbohydrates, sugars, amino acids amines, surfactants and many metabolic intermediates. Other compounds include soluble salt combinations of low toxicity ions and dilute (less than 10%) aqueous solutions of low molecular weight biodegradable organic chemicals such as alcohols, aldehydes, ketones, amines, ethers, cellosolves, nitriles, esters and itroalkanes. Examples of materials in these categories include:

Soluble salt combinations of the following ions:

Cations	Anions
Aluminum (Al^{3+})	Bicarbonate (HCO_3^-)
Ammonium (NH_4^+)	Bisulfite (HSO_3^-)
Calcium (Ca^{2+})	Bromate (BrO_3^-)
Cesium (Cs^+)	Bromide (Br^-)
Hydrogen (H^+)	Carbonate (CO_3^{2-})
Lithium (Li^+)	Chlorate (ClO_3^-)
Magnesium (Mg^{2+})	Chloride (Cl^-)
Potassium (K^+)	Hydroxide (HO^-)
Sodium (Na^+)	Iodate (IO_3^-)
Strontium (Sr^{2+})	Iodide (I^-)
Tin (Sn^{2+})	Nitrate (NO_3^-)
	Nitrite (NO_2^-)
	Oxide (O_2^-)
	Phosphate (PO_4^{3-})
	Sulfate (SO_4^{2-})
	Sulfite (SO_3^{2-})

Note: Before discharging into sewer, make sure that all other criteria (such as pH, flammability, toxicity, etc. limits) are met.

Dilute (<5%) aqueous solutions of low molecular weight biodegradable organic chemicals appropriate for sanitary sewer discharge include:

Alcohols	Amides
Alkanols with fewer than 5 atoms Alkanediols with fewer than 8 atoms Sugars and sugar alcohols Alkoxyalk anols with fewer than 7 carbon atoms Butanol, 1-(n-Butyl Alcohol) Butanol, 2-(sec-Butyl Alcohol) Ethanol Ethanol, 2-(2-Butoxyethoxy) Ethylene Glycol Glycerol Methyl 1-Propanol, 2-(Isobutyl Alcohol) Methyl 2, Butanol, 2-(t-Amyl Alcohol) Methyl 2-Propanol, 2-(tert-Butyl Alcohol) Propanol, 1-(n-Propyl Alcohol) Propanol, 2-(Isopropyl Alcohol)	RCONH ₂ and RCONHR with fewer than 5 carbon atoms RCONR ₂ with fewer than 11 carbon atoms Formamide Propionamide Methylpropionamide, N- Butanamide Aliphatic aldehydes with few than 5 carbon atoms
Aldehydes	Amines
Aliphatic aldehydes with fewer than 5 carbon atoms Butyraldehyde Gluteraldehyde Propionaldehyde	Aliphatic amines with fewer than 7 carbon atoms Aliphatic diamines with fewer than 7 carbon atoms Benzylamine Butylamine, N-

Carboxylic Acids	Ketones
Alkanoic acids with fewer than 6 carbon atoms Alkanedioic acids with fewer than 6 carbon atoms Hydroxyalkanoic acids with fewer than 6 carbon atoms Aminoalkanoic acids with fewer than 7 carbon atoms Ammonium, Sodium, and Potassium salts of the above acid classes with fewer than 21 carbon atoms Acetic Acid Citric Acid Oxalic Acid Potassium Binoxalate Propanoic Acid Sodium Acetate Sodium Citrate	Ketones with fewer than 6 carbon atoms Pentatone, 2-
Esters	Nitriles
Esters with fewer than 5 carbon atoms Isopropyl Acetate Methyl Acetate Methyl Formate Methyl Propionate Propyl Formate, n-	Propionitrile
Ethers	Sulfonic Acids
Dioxalane	Sodium or Potassium salts of most are acceptable

Note: Before discharging any of these materials to the sanitary sewer, make sure all other criteria (such as pH limits and flammability) are met.

When discharging waste to the sanitary sewer, you should:

- Never dispose of anything that might lead to a storm sewer rather than a sanitary sewer.
- Use a sink that does not have a history of clogging or overflowing.
- Use a sink in your laboratory, preferably in a hood.
- Flush with at least 10-20 fold excess of water after drain disposal to thoroughly rinse out the sink and sink trap, and to dilute the waste.
- Limit the quantities being discharged to 100 grams of solute per laboratory per day.
- Wear gloves, eye protection and a laboratory coat.
- Inactive biological materials (e.g., autoclave or bleach-treat) before releasing to sewer.