TENNESSEE STATE UNIVERSITY

CENTER FOR MICRO-, NANO-, & BIO-TECHNOLOGY RESEARCH (CMNBTR)

Guidelines for Sewer/Sink Disposal of Wastes

RESEARCH & SPONSORS PROGRAMS

2016

Introduction

Tennessee State University (TSU) is required comply with all Federal and State regulations and all restrictions established by the Metro Wastewater Treatment Plant. This guide is an aid to assist laboratories with the identification of waste streams that are prohibited or limited from sewer disposal. Wastes must **NOT** be intentionally diluted to comply with the sewer disposal requirements. Please contact the TSU Environment Health and Safety (EHS) for assistance in applying these guidelines to your specific waste streams. For more information on how to collect and manage hazardous wastes, please contact

Wastes forbidden from sink/sewer disposal

The following wastes must **NEVER** be discharged to the sanitary sewer in ANY concentration. These wastes must be collected and managed as hazardous waste.

1. **Brominated Hydrocarbon Waste**
   Specific examples:
   - Bromoform
   - Bromomethane

2. **Chlorofluorcarbon Waste**

3. **Chlorinated Hydrocarbon Waste.**
   Chlorinated hydrocarbons are compounds that contain chlorine, hydrogen, and carbon. Examples of chlorinated hydrocarbons include but are not limited to:

   a. Chloromethanes:
      Specific examples:
      - Methylene chloride
      - Trichloromethane (chloroform)
      - Trichlorofluoromethane

   b. Chloroethanes:
      Specific examples:
      - 1,1-Dichloroethane
      - 1,1,1-Trichloroethane
      - 1,1,2-Trichloroethane
      - Hexachloroethane

   c. Chloroethylenes:
      Specific examples:
      - Vinyl chloride
      - Trichloroethylene
      - Tetrachloroethylene

d. Chloropropanes, chlorobutanes, chlorobutenes:
Specific examples:
- Dichlorobutadiene
- Hexachlorobutadiene

e. Chlorinated paraffins

f. Chlorinated pesticides
Specific examples:

2,4-D	Heptachlor
Aldrin	Hexachloride
Chlordane	Hexachlorobenzene
DDT	Lindane
Dieldrin	Methoxychlor
Endrin	Mirex
Heptachlor epoxide	Toxaphene

g. Nucleus-chlorinated aromatic hydrocarbons
Specific examples:

Dichlorobenzene	Chlorinated biphenyls (including PCBs)
Dichlorotoluene	Chlorinated naphthalenes
Chlorobenzene	Pentachlorophenol
1,2-Dichlorobenzene	2,4,5-Trichlorophenol
1,4-Dichlorobenzene	2,4,6-Trichlorophenol

h. Side-chain chlorinated aromatic hydrocarbons
Specific examples:
- Chloromethyl benzene (benzyl chloride)
- Dichloromethyl benzene (benzal chloride)
- Trichloromethyl benzene (benzotrichloride).

4. **Raw Chemical Waste.**
Unused, pure, or concentrated chemicals.

5. **Corrosive Waste.**
Corrosive wastes are wastes that could cause corrosive structural damage to the sink/sewer piping. All wastes with a pH lower than 5.0 Standard Units (S.U.) or higher than 9.0 S.U. are considered corrosive wastes. Laboratories must not neutralize corrosive wastes to comply with this requirement unless it is part of a written protocol for the laboratory process generating the waste and the neutralization process is carried out by trained, qualified personnel.

6. **Cyanide Waste.**
Includes cyanide, cyanate (OCN-), and thiocyanate (SCN-) compounds.
Specific examples:

Copper cyanide	Potassium cyanide
Hydrogen cyanide	Sodium cyanide
Nickel cyanide	Zinc cyanide

7. **Heavy Metal Waste.**
   Specific examples:

Antimony	Mercury
Arsenic	Nickel
Barium	Selenium
Cadmium	Silver
Chromium	Thallium
Copper	Zinc
Lead	

8. **Solvent Waste.**
   Wastes containing any of the following solvents in any concentration:

Acetone*	Ethyl Ether
Benzene	Isobutanol
n-Butyl Alcohol	Methanol
Carbon Disulfide	Methyl Ethyl Ketone (MEK)
Carbon Tetrachloride	Methyl Isobutyl Ketone
Cresols	Nitrobenzene
Cyclohexanone	2-Nitropropane
Cresylic Acid	Pyridine
2-Ethoxyethanol	Toluene
Ethyl Acetate	Xylene
Ethyl Benzene	

** Please note that acetone used to wash glassware falls into this category*

9. **Ethidium Bromide and Acrylamide Waste.**
   Buffer solutions and other solutions containing ethidium bromide or acrylamide in any concentration and ethidium bromide and acrylamide gels. *Please see Appendix in the CMNBTR laboratory manual for more details.*

10. **Hot Liquid or Vapor Wastes.**
    Liquid or vapor wastes with a temperature above 65.5° C (150° F) must not be discharged to the sewer.

11. **Ignitable Wastes.**
    Ignitable wastes are:
    1) Liquid wastes with a flashpoint less than 60° C (140° F)
    2) Non-liquid wastes that are capable of causing fire through friction, reaction with moisture, or spontaneous chemical changes
    3) Ignitable compressed gases; or
    4) Oxidizers.

Ignitable wastes include most waste solvents found in laboratories, ignitable compressed gases such as hydrogen, and oxidizers such as nitrates/nitrites (sodium nitrate, potassium nitrite, etc.) and chlorates and perchlorates (magnesium perchlorate, etc.). Ignitable wastes include mixtures of ignitable chemicals with other materials if the mixture still exhibits the ignitability characteristic (i.e., flashpoint less than 60 degrees C).

12. **Nuisance Waste.**
    Wastes that may cause a discoloration or that may cause interference in the Metro wastewater treatment plant must not be discharged to the sewer. Wastes that are noxious or malodorous to the extent that a nuisance may be created at the Metro wastewater treatment plant or in other laboratories must not be discharged to the sewer.

13. **Oil and Grease Wastes.**
    Waste oils and grease, including vacuum pump oil, must be collected and managed as hazardous wastes. Wastes that are contaminated with oil or grease in concentrations greater than 50 mg/L must also be collected and managed as hazardous waste.

14. **Priority Pollutant Wastes.**
    All wastes containing any of the following priority pollutant compounds in any concentration must be collected and managed as hazardous waste:

Volatiles		
Acrylonitrile	Benzene	Bromoform
Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane
Chloroethane	2-Chloroethylvinyl ether	Chloroform
Dichlorobromomethane	Dichlorodifluoromethane	1,1-Dichloroethane
1,2-Dichloroethane	1,1-Dichloroethylene	Dichloromethane
1,2-Dichloropropane	1,2-Dichloropropylene	1,3-Dichloropropylene
2,4-Dichloropropylene	Ethylbenzene	Methyl bromide
Methyl chloride	Methylene chloride	1,1,2,1-Tetrachloroethane
1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Tetrachloromethane
Toluene	Trans-dichloroethylene	1,2-Trans-dichloroethylene
1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene
Trichlorofluoromethane	Trichloromethane	Vinyl chloride
Base/Neutral		
Acenaphthene	Acenaphthylene	Anthracene
Benzidine	Benzo(a)anthracene	Benzo(a)pyrene
3,4-Benzofluoranthene	Benzo(ghi)perylene	Benzo(b)fluoranthene
Benzo(k)fluoranthene	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether	Bis(2-chloromethyl)ether	Bis (2-ethylhexyl)phthalate
4-Bromophenyl phenyl ether	Butylbenzyl phthalate	2-Chloronaphthalene
4-Chlorophenyl phenyl ether	Chrysene	Dibenzo(a,h)anthracene
1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene
3,3'-Dichlorobenzidine	Di-n-ethyl phthalate	Diethyl phthalate
Di-c-methyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate
2,4-Dinitrotoluene	2,6-Dinitrotoluene	Di-n-octyl phthalate

1,2-Diphenylhydrazine	Fluroranthene	Fluorene
Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene
Hexachloroethane	Indeno(1,2,3-cd)pyrene	Naphthalene
Nitrobenzene	N-nitrosodimethylamine	N-nitrosodi-n-propylamine
N-nitrosodiphenylamine	Phenanthrene	Pyrene
1,2,4-Trichlorobenzene		
Pesticides		
Acrolein	Aldrin	BHC, alpha
BHC, beta	BHC, delta	BHC, gamma
Chlordane	4,4'-DDT	4,4'-DDE
4,4'-DDD	Dieldrin	Endosulfan, alpha
Endosulfan, beta	Endosulfan sulfate	Endrin
Endrin aldehyde	Heptachlor	Heptachlor epoxide
Isophorone	PCB-1016	PCB-1221
PCB-1232	PCB-1242	PCB-1248
PCB-1254	PCB-1260	TCDD (Dioxin)
Toxaphene		
Volatiles Inorganics, Metals, Phenols, and Cresols		
Antimony	Arsenic	Asbestos
Beryllium	Cadmium	Chromium
Copper	Lead	Mercury
Nickel	Selenium	Silver
Thallium	Zinc	Cyanide
2-Chlorophenol	Cresols	2,4-Dichlorophenol
2,4-Dimethylphenol	4,6-Dinitro-o-cresol	2,4-Dinitrophenol
2-Nitrophenol	4-Nitrophenol	P-chloro-m-cresol
Pentachlorophenol	Phenols	2,4,6-Trichlorophenol

15. **Reactive Wastes.**

Reactive wastes:

1) Are normally unstable and readily undergo violent change;
2) React violently or form explosive mixtures with water;
3) Can generate toxic gases, vapors or fumes when mixed with water or exposed to extreme pH conditions
4) Are capable of detonation or explosive reaction under certain conditions.

Common reactive wastes found in laboratories include certain cyanides, sulfides, and silanes or any mixtures of multiple wastes that exhibit reactivity characteristics.

16. **Solid or Viscous Wastes.**

Solid or viscous wastes that may coat, clog, or otherwise cause obstruction to the flow of sewer pipes must never be discharged to the sewer. Examples of prohibited solid or viscous waste include sand, animal tissues, bones, plastics, rubber, glass, wood chips, wood shavings, plaster, paint, etc. in such quantity, concentration, or form that may cause interference with proper sewer flow. Depending on the nature of the waste, it may be discharged to the normal trash or collected and managed as hazardous waste.

17. **Untreatable Waste.**
    Wastes that contain any element or compound that cannot be adequately treated or removed by the Metro wastewater treatment plant (biological activated sludge treatment) and that is known to be an environmental hazard must not be discharged to the sewer.

18. **Rinseate**
    Empty containers that are being rinsed should be triple rinsed with a minimal amount of liquid and the rinseate collected and managed as hazardous waste, if the container held any of the wastes described above in Sections 1, 2, 3, 4, 6, 7, or 8. Subsequent rinses may be discharged to the sewer. Depending on the waste, fewer rinses may be required to be collected. Contact TSU-EHS for evaluation of specific waste containers. Rinseate from empty containers that held other types of waste may be discharged to the sewer if the rinseate does not exhibit the hazardous characteristic of the waste (for example, rinseate from a container that held ignitable waste may be sewer disposed if the rinseate is not ignitable).

Wastes with limited sink/sewer disposal

1. **Radioactive Wastes.**
   A radioactive waste that is water soluble or readily dispersible in water and not prohibited from sewer disposal based on the criteria described in the previous section may be disposed via the sanitary sewer system. The disposal limit is 200 μCi per laboratory per day. Records of sewer disposal must be maintained on the Radioactive Sink Disposal Log.

2. **Biological Materials.**
   Biological waste must not be discharged to the sewer unless it has been properly treated. Please refer to Proper Disposal of Biological Waste in the Guide to Biosafety at TSU for biological waste disposal policies and procedures (CMNBTR website). Biological waste intended for sewer disposal must not be prohibited from sewer disposal based on the criteria described in the previous section.

3. **Specific Organic Chemicals in Concentrations of One Percent or Less.**
   Organic chemicals suitable for sink/sewer disposal are described below. Only those organic compounds that are reasonably soluble in water are suitable for sink/sewer disposal. A compound is considered water soluble if it dissolves to the extent of at least three percent. Chemicals listed below must be in concentrations of approximately one percent or less to be suitable for sink/sewer disposal. If the total volume of waste to be disposed is greater than four liters per day, approval by TSU-EHS is required. Sewer discharges of these chemicals must not be prohibited in the previous section. Any chemicals that fall into categories described below but are specifically prohibited from sink/sewer disposal in the previous section must **NOT** be discharged to the sewer.

   a. **Alkanols with 4 or fewer carbon atoms.**
      Specific examples:
      - 2-Butanol
      - 2-Propanol
      - Tert-butanol
      - Ethanol 1-Propanol

   b. **Alkanediols with 7 or fewer carbon atoms.**
      Specific examples:

Butanediol and isomers	Hexanediol and isomers
Butylene glycol	Hexylene glycol
Ethylene glycol	Pentanediol and isomers
Heptamethylene glycol	Pentylene glycol
Heptanediol and isomers	Propylene glycol

   c. **Sugars and sugar alcohols (polyols).**
      Specific examples:

Dithioerythritol	Maltitol
Dithiothreitol	Mannitol
Erythritol	Molasses

Glycerol	Sorbitol
Lactitol	Xylitol

d. **Alkoxyalkanols with 6 or fewer carbon atoms.**
Specific examples:
- Butoxyethanol
- Ethoxyethanol
- Methoxyethanol

e. **Aliphatic aldehydes with 4 or fewer carbon atoms.**
Specific examples:

Acetaldehyde	Glutaraldehyde
Butyraldehyde (butanal)	Isobutyraldehyde
Formaldehyde	Propionaldehyde (propanal)

f. **RCONH2 and RCONHR with 4 or fewer carbon atoms and RCONR2 with 10 or fewer carbon atoms.**
Specific examples:

Acetamide	N,N-Dimethyl propionamide
Butanamide	N-Ethyl acetamide
Butyramide	N-Ethyl formamide
Formamide	N-Methyl acetamide
Isobutyramide	N-Methyl formamide
N,N-Diethyl formamide	N-Methyl propionamide
N,N-Dimethyl acetamide	Propionamide

g. **Aliphatic amines with 6 or fewer carbon atoms.**
Specific examples:

Amylamine	Methylamine
Isobutylamine	Methylbutylamine
Butylamine	N-Ethylbutylamine
Dimethylpropylamine	N-Ethylmethylamine
Ethylamine	N-Methylpropylamine
1-Ethylpropylamine	Trimethylamine
Hexylamine	Iso-amylamine
Isobutylamine	Diethylamine
Isopropylamine	

h. **Aliphatic diamines with 6 or fewer carbon atoms.**
Specific examples:

Ethylene diamine	1,2-Propanediamine
Hexamethylene diamine and isomers	1,3-Propanediamine

Pentamethylenediamine and isomers	Triethylenediamine
Piperazine	

i. **Alkanoic acids with 5 or fewer carbon atoms and the ammonium, sodium, and potassium salts of these acids with 20 or fewer carbon atoms.**
Specific examples:

Acetic acid	Isovaleric acid
Butyric acid	Propionic acid
Formic acid	Valeric acid
Isobutyric acid	

j. **Alkanedioic acids with 5 or fewer carbon atoms and the ammonium, sodium, and potassium salts of these acids with 20 or fewer carbon atoms.**
Specific examples:

Fumaric acid	Oxalic acid (1,2-ethanedioic acid)
Glutaric acid (1,5-pentanedioic acid)	Succinic acid (1,4-butanedioic acid)
Malic acid	Tartaric acid
Malonic acid (1,3-propanedioic acid)	

k. **Hydroxyalkanoic acids with 5 or fewer carbon atoms and the ammonium, sodium, and potassium salts of these acids with 20 or fewer carbon atoms.**
Specific examples:
- Glycolic acid
- 3-Hydroxybutyric acid
- 2-Hydroxyisobutyric acid
- Lactic acid (2-hydroxypropanoic acid)

l. **Aminoalkanoic acids with 6 or fewer carbon atoms and the ammonium, sodium, and potassium salts of these acids with 20 or fewer carbon atoms.**
Specific examples:

3-Amino butyric acid	5-Amino pentanoic acid and isomers
4-Amino butyric acid	3-Amino propanoic acid
Amino isobutyric acid	

m. **Esters with 4 or fewer carbon atoms.**
Specific examples:

Ethyl formate	Methyl formate
Isopropyl acetate	Methyl propionate
Isopropyl formate	Propyl formate
Methyl acetate	

n. **Nitriles.**
Specific examples:
- Acetonitrile
- Butyronitrile

- Isobutylnitrile
- Propionitrile

o. **Sulfonic acids and sodium and potassium salts of the acids.**
Specific examples:

Methane sulfonic acid	1-Heptane sulfonic acid
Ethane sulfonic acid	1-Octane sulfonic acid
1-Propane sulfonic acid	1-Decane sulfonic acid
1-Butane sulfonic acid	1-Dodecane sulfonic acid
1-Pentane sulfonic acid	1-Tetradecane sulfonic acid
1-Hexane sulfonic acid	1-Hexadecane sulfonic acid

4. **Specific Inorganic Chemicals in Concentrations of One Percent or Less.**
Inorganic chemicals suitable for sink/sewer disposal are described below. Only those inorganic compounds that are reasonably soluble in water are suitable for sink/sewer disposal. A compound is considered water soluble if it dissolves to the extent of at least three percent. Chemicals listed below must be in concentrations of approximately one percent or less to be suitable for sink/sewer disposal. If the total volume of waste to be disposed is greater than four liters per day, approval by TSU-EHS is required. Sewer discharges of these chemicals must not be prohibited in the previous section. Any chemicals that fall into categories described below but are specifically prohibited from sink/sewer disposal in the previous section must **NOT** be discharged to the sewer.

Inorganic salts cations and anions	
Cations	**Anions**
Aluminum, Al^{3+}	Borate, BO_3^{3-}, $B_4O_7^{2-}$
Ammonium, NH^{4+}	Bromide, Br^-
Calcium, Ca^{2+}	Carbonate, CO_3^{2-}
Cesium, Cs^+	Chloride, Cl^-
Hydrogen, H^+	Bisulfite, HSO_3^-
Lithium, Li^+	Hydroxide, OH^-
Magnesium, Mg^{2+}	Oxide, O_2^-
Potassium, K^+	Iodide, I^-
Sodium, Na^+	Nitrate, NO_3^-
Strontium, Sr^{2+}	Phosphate, PO_4^{3-}
Tin, Sn^{2+}	Sulfate, SO_4^{2-}
Titanium, Ti^{3+}, Ti^{4+}	
Zirconium, Zr^{2+}	

Specific chemicals forbidden from sewer/sink disposal

The following chemicals must **NEVER** be discharged to the sanitary sewer in any concentration. This list contains examples of specific chemicals and does NOT include all chemicals that are forbidden from sewer disposal. For more information on whether a chemical not listed below can be discharged to the sewer, please contact TSU Environment Health and Safety (EHS) for assistance.

Specific chemicals forbidden from sewer/sink disposal	
Acenaphthene	Acenaphthylene
Acetone	Acrolein
Acrylamide	Acrylonitrile
Aldrin	Anthracene
Antimony	Arsenic
Asbestos	Barium
Benzene	Benzidine
Benzo(a)anthracene	Benzo(a)pyrene
Benzo(b)fluoranthene	Benzo(ghi)perylene
3,4-Benzofluoranthene	Benzo(k)fluoranthene
Beryllium	BHC, alpha
BHC, beta	BHC, delta
BHC, gamma	Bis (2-ethylhexyl)phthalate
Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether	Bis(2-chloromethyl)ether
Bromoform	Bromoform
Bromomethane	4-Bromophenyl phenyl ether
Butylbenzyl phthalate	Cadmium
Carbon Disulfide	Carbon Tetrachloride
Chlordane	2-Chloroethylvinyl ether
Chlorinated biphenyls (including PCBs)	Chlorinated naphthalenes
Chlorobenzene	Chlorodibromomethane
Chloroethane	Chloroform
Chloromethyl benzene (benzyl chloride)	2-Chloronaphthalene
2-Chlorophenol	4-Chlorophenyl phenyl ether
Chromium	Chrysene
Copper	Copper cyanide
Cresols	Cresylic Acid
Cyanide	Cyclohexanone
2,4-D	DDT
4,4'-DDD	4,4'-DDE
4,4'-DDT	Dibenzo(a,h)anthracene
Dichlorobenzene	1,2-Dichlorobenzene
1,3-Dichlorobenzene	1,4-Dichlorobenzene
3,3'-Dichlorobenzidine	Dichlorobromomethane
Dichlorobutadiene	Dichlorodifluoromethane

1,1-Dichloroethane	1,2-Dichloroethane
1,1-Dichloroethylene	1,2-Trans-dichloroethylene
Dichloromethane	Dichloromethyl benzene (benzal chloride)
2,4-Dichlorophenol	1,2-Dichloropropane
1,2-Dichloropropylene	1,3-Dichloropropylene
2,4-Dichloropropylene	Dichlorotoluene
Di-c-methyl phthalate	Dieldrin
Diethyl phthalate	2,4-Dimethylphenol
Dimethyl phthalate	2,4-Dinitrophenol
Di-n-butyl phthalate	Di-n-ethyl phthalate
Di-n-octyl phthalate	4,6-Dinitro-o-cresol
2,6-Dinitrotoluene	1,2-Diphenylhydrazine
Endosulfan sulfate	Endosulfan, alpha
Endosulfan, beta	Endrin
Endrin aldehyde	Ethidium Bromide
2-Ethoxyethanol	Ethyl Acetate
Ethyl Benzene	Ethyl Ether
Ethylbenzene	Fluorene
Fluroranthene	Heptachlor
Heptachlor epoxide	Hexachloride
Hexachlorobenzene	Hexachlorobutadiene
Hexachlorocyclopentadiene	Hexachloroethane
Hydrogen cyanide	Indeno(1,2,3-cd)pyrene
Isobutanol	Isophorone
Lead	Lindane
Mercury	Methanol
Methoxychlor	Methyl bromide
Methyl chloride	Methyl Ethyl Ketone (MEK)
Methyl Isobutyl Ketone	Methylene chloride
Mirex	Naphthalene
n-Butyl Alcohol	Nickel
Nickel cyanide	Nitrobenzene
2-Nitrophenol	4-Nitrophenol
2-Nitropropane	N-nitrosodimethylamine
N-nitrosodi-n-propylamine	N-nitrosodiphenylamine
PCB-1016	PCB-1221
PCB-1232	PCB-1242
PCB-1248	PCB-1254
PCB-1260	P-chloro-m-cresol
Pentachlorophenol	Phenanthrene
Phenols	Potassium cyanide
Pyrene	Pyridine
Selenium	Silver
Sodium cyanide	TCDD (Dioxin)
1,1,2,1-Tetrachloroethane	1,1,2,2-Tetrachloroethane

Tetrachloroethylene	Tetrachloromethane
Thallium	Toluene
Toxaphene	Trans-dichloroethylene
1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
1,1,2-Trichloroethane	Trichloroethylene
Trichlorofluoromethane	Trichloromethane (chloroform)
Trichloromethyl benzene (benzotrichloride)	2,4,5-Trichlorophenol
2,4,6-Trichlorophenol	Vinyl chloride
Xylene	Zinc
Zinc cyanide	

Specific chemicals with limited sewer/sink disposal

The following chemicals may be discharged to the sewer in concentrations of approximately one percent or less. If the percentage is greater than one percent, approval by TSU Environment Health and Safety is required. If the total volume of waste to be disposed is greater than four liters per day, approval by TSU Environment Health and Safety is required. Sewer discharges of these chemicals must not be prohibited for any other reason. Specifically, solutions containing these chemicals must not also contain chemicals specifically forbidden from sewer disposal. This list contains examples of specific chemicals and does **NOT** include all chemicals with limited discharge to the sewer. For more information on whether a chemical not listed below can be discharged to the sewer, please contact TSU Environment Health and Safety (EHS).

Specific chemicals with limited sewer/sink disposal	
Acetaldehyde	Acetamide
Acetic acid	Acetonitrile
3-Amino butyric acid	4-Amino butyric acid
Amino isobutyric acid	5-Amino pentanoic acid and isomers
3-Amino propanoic acid	Amylamine
Butanamide	Butanediol and isomers
1-Butane sulfonic acid	2-Butanol
Butoxyethanol	Butylamine
Butylene glycol	Butyraldehyde (butanal)
Butyramide	Butyric acid
Butyronitrile	1-Decane sulfonic acid
Diethylamine	Dimethylpropylamine
Dimethyl sulfoxide (DMSO)	Dithioerythritol
Dithiothreitol	1-Dodecane sulfonic acid
Erythritol	Ethane sulfonic acid
Ethanol	Ethoxyethanol
Ethyl formate	Ethylamine
Ethylene diamine	Ethylene glycol
1-Ethylpropylamine	Formaldehyde
Formamide	Formic acid
Fumaric acid	Glutaraldehyde
Glutaric acid (1,5-pentanedioic acid)	Glycerol
Glycolic acid	Heptamethylene glycol
Heptanediol and isomers	1-Heptane sulfonic acid
1-Hexadecane sulfonic acid	Hexamethylene diamine and isomers
1-Hexane sulfonic acid	Hexanediol and isomers
Hexylamine	Hexylene glycol
3-Hydroxybutyric acid	2-Hydroxyisobutyric acid
Iso-amylamine	Isobutylamine
Isobutylamine	Isobutylnitrilev
Isobutyraldehyde	Isobutyramide
Isobutyric acid	Isopropyl acetate

Isopropyl formate	Isopropylamine
Isovaleric acid	Lactic acid (2-hydroxypropanoic acid)
Lactitol	Malic acid
Malonic acid (1,3-propanedioic acid)	Maltitol
Mannitol	Methane sulfonic acid
Methoxyethanol	Methyl acetate
Methyl formate	Methyl propionate
Methylamine	Methylbutylamine
Molasses	N,N-Diethyl formamide
N,N-Dimethyl acetamide	N,N-Dimethyl propionamide
N-Ethyl acetamide	N-Ethyl formamide
N-Ethylbutylamine	N-Ethylmethylaminevv
N-Methyl acetamide	N-Methyl formamide
N-Methyl propionamide	N-Methylpropylamine
1-Octane sulfonic acid	Oxalic acid (1,2-ethanedioic acid)
Pentamethylenediamine and isomers	Pentanediol and isomers
1-Pentane sulfonic acid	Pentylene glycol
Piperazine	1,2-Propanediamine
1,3-Propanediamine	1-Propane sulfonic acid
1-Propanol	2-Propanol
Propionaldehyde (propanal)	Propionamide
Propionic acid	Propionitrile
Propyl formate	Propylene glycol
Sorbitol	Succinic acid (1,4-butanedioic acid)
Tartaric acid	Tert-butanol
1-Tetradecane sulfonic acid	Triethylenediamine
Trimethylamine	Valeric acid
Xylitol	

Inorganic salts cations and anions	
Cations	**Anions**
Aluminum, Al^{3+}	Borate, BO_3^{3-}, $B_4O_7^{2-}$
Ammonium, NH^{4+}	Bromide, Br^-
Calcium, Ca^{2+}	Carbonate, CO_3^{2-}
Cesium, Cs^+	Chloride, Cl^-
Hydrogen, H^+	Bisulfite, HSO_3^-
Lithium, Li^+	Hydroxide, OH^-
Magnesium, Mg^{2+}	Oxide, O_2^-
Potassium, K^+	Iodide, I^-
Sodium, Na^+	Nitrate, NO_3^-
Strontium, Sr^{2+}	Phosphate, PO_4^{3-}
Tin, Sn^{2+}	Sulfate, SO_4^{2-}
Titanium, Ti^{3+}, Ti^{4+}	
Zirconium, Zr^{2+}	

References

1. Tennessee Department of Environment and Conservation (TDEC) Rule 1200-1-11.
2. Metropolitan Government of Nashville and Davidson County Code of Laws Title 15.60.
3. Prudent Practices in the Laboratory: Handling and Disposal of Chemicals , National Academy Press, Washington, D.C., 1995.