



The United Sludge-Free Alliance Recommended Reading

From the EPA Targeted National Sewage Sludge Survey, January 2009

Analytes Included in the TNSSS

Analytes Included in the TNSSS, by Analyte Group

Analyte Group	Analyte
Metals	<ul style="list-style-type: none">• Aluminum• Manganese• Antimony• Mercury*• Arsenic*• Molybdenum*• Barium• Nickel*• Beryllium• Phosphorus• Boron• Selenium*• Cadmium*• Silver• Calcium• Sodium• Chromium*• Thallium• Cobalt• Tin• Copper*• Titanium• Iron• Vanadium• Lead*• Yttrium• Magnesium• Zinc*
Polycyclic aromatic hydrocarbons (PAHs)	<ul style="list-style-type: none">• Benzo(a)pyrene• 2-Methylnaphthalene• Fluoranthene• Pyrene
Semivolatile organics	<ul style="list-style-type: none">• Bis (2-Ethylhexyl) phthalate• 4-Chloroaniline
Inorganic anions	<ul style="list-style-type: none">• Fluoride• Water-extractable phosphorus• Nitrate

Analytes Included in the TNSSS, by Analyte Group

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Polybrominated diphenyl ethers (PBDEs), including the Tetra, Hexa, Penta, and Deca congeners	<ul style="list-style-type: none"> • Nitrite • 2,2',4,4'-TeBDE (BDE-47) • 2,2',4,4',5,5'-HxBDE (BDE-153) • 2,2',4,4',5-PeBDE (BDE-99) • 2,2',3,3',4,4',5,5',6,6'-DeBDE (BDE-209)
Antibiotics and their degradation products, disinfectants, and other antimicrobials	<ul style="list-style-type: none"> • Anhydrochlortetracycline • Ofloxacin • Anhydrotetracycline • Ormetoprim • Azithromycin • Oxacillin • Carbadox • Oxolinic acid • Cefotaxime • Oxytetracycline • Chlortetracycline • Penicillin G • Ciprofloxacin • Penicillin V • Clarithromycin • Roxithromycin • Clinafloxacin • Sarafloxacin • Cloxcillin • Sulfachloropyridazine • Demeclocycline • Sulfadiazine • Doxycycline • Sulfadimethoxine • Enrofloxacin • Sulfamerazine • 4-Epianhydrochlortetracycline • Sulfamethazine • 4-Epianhydrotetracycline • Sulfamethizole • 4-Epichlortetracycline • Sulfamethoxazole • 4-Epioxytetracycline • Sulfanilamide • 4-Epitetracycline • Sulfathiazole • Erythromycin • Tetracycline • Flumequine • Triclocarban • Isochlortetracycline

Analytes Included in the TNSSS, by Analyte Group

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Other drugs	<ul style="list-style-type: none"> • Triclosan • Lincomycin • Trimethoprim • Lomefloxacin • Tylosin • Minocycline • Virginiamycin • Norfloxacin • 1,7-Dimethylxanthine • Diphenhydramine • Acetaminophen • Fluoxetine • Albuterol • Gemfibrozil • Caffeine • Ibuprofen • Carbamazepine • Metformin • Cimetidine • Miconazole • Codeine • Naproxen • Cotinine • Norgestimate • Dehydronifedipine • Ranitidine • Digoxigenin • Thiabendazole • Digoxin • Warfarin • Diltiazem 		
	Steroids	<ul style="list-style-type: none"> • Campesterol • Epi-coprostanol • Cholestanol • Ergosterol • Cholesterol • β-Sitosterol • Coprostanol • β-Stigmastanol • Desmosterol • Stigmasterol • Androstenedione 	
		Hormones	<ul style="list-style-type: none"> • Estriol • Androsterone • Estrone • 17α-Dihydroequilin • 17α-Ethinyl estradiol • Equilenin • Norethindrone

Analytes Included in the TNSSS, by Analyte Group

Analyte Group

Analyte

- Equilin
- Norgestrel
- 17 α -Estradiol
- Progesterone
- 17 β -Estradiol
- Testosterone
- β -Estradiol-3-benzoate

The 9 pollutants in **bold** are those selected in the [December 2003 Biennial Review](#)

<http://www.epa.gov/waterscience/biosolids/tnsss-overview.html#appA>