

APPENDIX C2

USAGE AND HAZARD RANKING INFORMATION FOR CHEMICALS

APPENDIX TO CHAPTER 16

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The following information about the hazard associated with many of the chemicals considered in Chapter 16 was obtained from Sax, N.I. 1975. *Dangerous Properties of Industrial Materials, 4th ed.* New York, New York: Van Nostrand Reinhold Company; Sax, N.I. and R.J. Lewis. 1992. *Dangerous Properties of Industrial Materials.* New York, New York: Van Nostrand Reinhold; or from ATSDR's (Agency for Toxic Substances and Disease Registry's). 1992–1997. Toxicological Profiles.

The material name and chemical abstract services (CAS) number is given in the first column. The toxicity ranking in the middle column is relative and is defined in *Dangerous Properties of Industrial Materials* as:

- 0 No toxicity, materials that cause no harm under any conditions of normal use, or materials that produce toxic effects in humans only under the most unusual conditions or by overwhelming dosage.
- 1 Slight Toxicity, in general, these are materials that produce changes in the human body which are relatively reversible and that will disappear following termination of exposure, either with or without medical treatment.
- 2 Moderate Toxicity, materials that may produce irreversible as well as reversible changes in the human body. The changes are not of such severity as to threaten life or produce serious physical impairment.
- 3 Severe Toxicity, materials that can cause injury of sufficient severity to threaten life.

The information in the third column addresses the common uses of the chemical and other information which may be of interest for dose reconstruction. Mention is also made of materials listed for the EPA Toxic Substances Control Act (TSCA) and compounds that may cause reproductive effects or that may have mutagenic or carcinogenic activity. Many of the chemicals used at the SRS and in industry world-wide have not been subjected to extensive toxicity testing and a hazard ranking could not be provided for all of the chemicals listed.

Usage and Hazard Ranking Information for Chemicals

Material (CAS number)	Toxicity ranking	Uses and Other Information
Acetone (64-1)	3	Paint, paint remover and thinner, used to clean precision parts of equipment, airplane glue solvent
Acetonitrile (75-05-8)	3 EPA TSCA, suspected mutagen	Pesticides, solvent, floor polish, water proofing, antistatic, detergent, water softeners brighteners for metals

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Acrolein (107-02-8)	3 Possible carcinogen, experimental reproductive effects	Making plastics, artificial resins, and synthetic fibers, herbicide to control aquatic weeds in drainage and irrigation channels, fungicide for slime, tear gas
Acrylonitrile (107-13-1)	3 Confirmed human carcinogen, mutagen	Pesticide, to make synthetic fibers, plastics, surface coatings, adhesives, cotton pesticide, grain fumigant. Breaks down quickly in air, 1–2 weeks In water, metabolites include cyanide
Aldrin (309-00-2)	3 Suspected carcinogen, suspected mutagen, suspected reproductive hazard	Insecticide, no longer used, used in the 1950s–1970s. on crops such as corn and cotton. Its use was stopped in 1970 but it was approved for use on termites from 1972–1987. Aldrin readily changes into dieldrin once it enters the environment or a person. Dieldrin sticks to the soil strongly and may remain in soil, unchanged for many years. Not very water soluble. Attaches to sediments, bioconcentrates in fish. Causes liver tumors in rodents. There are a number of negative or inconclusive epidemiological studies.
Aluminum (III) nitrate (13473-90-0)	3 Also called aluminum slat, Norway saltpeter	Making fertilizers explosives, insecticides, and other chemicals; tanning leather, textiles, anti-perspirants, anti-corrosives, rocket propellant
Ammonia (7664-41-7)	3 Suspected mutagen, corrosive	Making fertilizers and other chemicals; in synthetic fibers, dyestuffs, explosives, cosmetics, hair dyes; electroplating, blueprint and film developing, processing leather, pulp and paper, textiles, refrigerant, flame retardant, cleaning solutions. Rapidly degraded.
Ammonia hydroxide (1336-21-6)	3 Also called ammonia water. EPA TSCA suspected mutagen	Textiles, making of rayon, rubber, fertilizers, metallic hair dyes, inks, refrigeration, photography, soaps, lubricants, protective skin creams, fire proofing of wood, explosives, ceramics, detergents, food additives, household cleaners
Aniline (62-53-3)	3 Also called phenylamine EPA TSCA, EPA Ext Haz Sub carcinogen, mutagen, a NIOSH study links to cancer	Making dyes, hair dyes, colored pencils, crayons, lithographic and other printing inks, perfumes, pharmaceuticals, nylon fibers, resins, varnishes, industrial solvent, rubber processing, photographic chemical, fungicide, artificial sweetener, and corrosion agent
Anthracene (120-12-7)	3 Suspected carcinogen, mutagen, allergen	Dyes, wood preservative, semi-conductor research, smoke screens

Antimony trioxide (1327-33-9)	Also called antimony oxide, carcinogen	Flame proofing textiles, paper, plastics, paint pigment, staining iron and copper, glass decolorizer
Arsenic (7440-38-2)	3 Confirmed human carcinogen, mutagen, suspected reproductive hazard	Making alloys (especially lead and copper), semiconductors, germanium and silicon, solid state products, types of glass, harden alloys, radioactive tracer for spirochetal infections, blood disorders and skin disease, pesticides, insecticide, rodenticide, solders
Asbestos (1332-21-4)	3 Carcinogen	Fireproofing, brake linings, roofing, electrical and heat resistant insulation, paint filler, chemical filters, reinforcing agent in plastic, and rubber
Benzene (71-43-2)	3 Also called carbon oil, coal naphtha, mineral naphtha; confirmed human carcinogen, mutagen, possible reproductive hazard	Perfumes, paints and coatings, processing nylon and photographic materials, making gasoline, styrene, pesticides, plastics, resins, synthetic rubber, aviation fuel, dyes, explosives and other chemical using phenols
Benzidine (92-87-5)	3 Confirmed human carcinogen, mutagen	Making dyes, rubber, detection of bloodstains, stain in microscopy, laboratory chemical
Benz (a) anthracene (56-55-3)	3 Confirmed carcinogen; it is isolated from products such as soot, coal, tar, tobacco smoke, petroleum and cutting oils	
Benzo (a) pyrenene (50-32-8)	3 Confirmed human carcinogen, possible reproductive hazard. common air contaminant found in food, water, and smoke; by-product of burning various carbon products (e.g., tar, soot, carbon black, coal, and coke)	Laboratory chemical
Benzo perylene	Questionable carcinogen	
Benzo fluoranthene (207-08-9)	3 Confirmed carcinogen	
3,4 Benzofluoranthene (205-99-2)	Confirmed carcinogen	

Beryllium (7440-41-7)	3 Carcinogen	Making electrical components, ceramics and chemicals, in computer parts, solid propellant and rocket fuel
Bis (2-chloroethoxy) methane (542-88-1)	3 Confirmed human carcinogen	laboratory chemical; used to make ion exchange resins
Bromacil (314-40-9)	Very low toxicity, 8 mg/kg mild AchE inhibition, carcinogenic report in USSR literature; possible reproductive hazard	Herbicide, weed killer
Bromine (7726-95-6)	3 Poison, corrosive	Making other chemicals, anti-knock gas, bleach, water purification, solvent, fumigant, fire retardant for plastics, dyes, pharmaceuticals, photography
1-bromo-3-chloro-5,5-dimethylhydantoin	Relatively low toxicity, biodegradable	Bromocide® a disinfectant used at wastewater treatment plants at the SRS
Bromoform (75-25-2)	3 Questionable carcinogen, narcotic	Solvent for fats, waxes and oils, making other chemicals and drug
Bromophenyl phenyl ether (1985-12-2)	3	
Butyl benzyl phthlate (85-68-7)	3 Possible carcinogen	
Cadmium compounds	3 Confirmed human carcinogen, mutagen, reproductive hazard	Electroplating, making batteries, plastics, TV tubes, fumigant, lithography, ceramic glazes, nuclear reactor rods, electronic devices, photo-electric cells
Calcium fluoride	2 Also called fluorite, fluorspar	Steelmaking, smelting, arc welding, glass and ceramics, fluoridation of drinking water
Carbon tetrachloride (56-23-5)	3 Confirmed carcinogen, mutagen	Spot remover, refrigerant, making fire extinguishers, metal degreaser, aerosols, pesticide, agricultural fumigant, production of semi-conductors, solvent
Chlordane (57-74-9)	3 Carcinogen, mutagen	Insecticide, fumigant
Chlorine gas (7782-50-5)	3 Mutagen	Chlorine bleach cleaners, making solvents and other chemicals, water purification, disinfectant, flame retardant, processing food, lithium and zinc batteries
Chlorobenzene (108-90-7)	Mutagen, poisonous, causes narcosis	Making other chemicals, dyes, pesticides, rubber dyes, solvent, heat transfer

Chlorodibromomethane (124-48-1)	2	
Chloroethane (38915-59-2)	3 Possible carcinogen	
Chloroform (67-66-3)	3 Confirmed carcinogen, mutagen, reproductive hazard	Making other chemicals including pesticides, drugs, and dyes
Chloronaphthalene 1, chloronaphthalene (90-13-1) 2, chloronaphthalene (91-58-7)	2	
Chlorophenol	Questionable carcinogen	
2, chlorophenol (95-57-8)		Making dyes
3, chlorophenol (108-43-0)		Making other chemicals
4, chlorophenol (106-48-9)		Making other chemicals, topical antiseptic, corrosive
Chromium compounds chromium (744-47-3)	3 Chromium salts are human carcinogens,	In plating, metals and plastics, increasing corrosion resistance, nuclear and high temperature research, inorganic pigment
Chrysene (218-01-9)	3 Confirmed carcinogen	Never found alone. Found in coal tar, found in distillation of coal, tar, asphalt, coal tar pitch.
Coal fly ash (68131-74-8)		By-product of burning coal
Coal tar (80007-45-2)	3 Confirmed human carcinogen	Raw material for plastics, solvents, dyes, drugs; the crude or refined products or fractions are used for waterproofing, paints, pipe coating, roads, roofing, insulation and as pesticides and sealants; direct burning as fuel; component of products for treatment of psoriasis; alcohol denaturant; binder and filler in surface coatings; modifier in epoxy resin surface coating
Coal tar pitch volatiles (65996-93-2)	3	

Copper compounds (7440-50-8)	3 Questionable carcinogen, reproductive hazard possible	Making brass; in industry and construction
Cristobalite (crystalline silica) (14464-46-1)	3 Carcinogen	Making fiber glass, ceramics, foundry molds, iron and steel castings
Cyanide (57-12-5)	3 Very poisonous	Found in rat poison and pest poison, silver and metal polishes, photographic solutions, fumigating products
DDD or 1,1-bis(4-chlorophenyl) -2,2-dichloroethane (72-54-8)	3 Carcinogen	Insecticide
DDE or 2,2-Bis (p-chlorophenyl) -1,1-dichloro-ethylene (72-55-9)	3 Suspected carcinogen, mutagen	Insecticide
DDT or 1,1,1 tri-chloro-2,2-di (4-chlorophenyl)-ethane	Carcinogen, mutagen, reproductive hazard	Insecticide
Diazinon (333-4-5)	3 EPA TSCA, EPA Gen Tox poisonous	Insecticide
Di (2 ethylhexyl) phthalate or di-sec-octyl phthalate (1117-81-7)	3 Carcinogen, mutagen, possible reproductive hazard	Plasticizer
Dibenzanthracene or dibenz (a,c) anthracene 1,2:3-4 - dibenzanthracene 1,2:3-4 - dibenzoanthracene benzo(b) triphenylene (215-58- 7)	3 Suspect carcinogen, mutagen	
Dibutyl phthalate (84-74-2)	3 Mutagen, reproductive hazard	Insect repellent, lacquer solvent, used to make flexible plastics

p-dichlorobenzene (106-46-7)	3 Carcinogen, mutagen, possible reproductive hazards	Fumigant, to control mold and mildew, also as a deodorant
3,3 dichlorobenzidine (91-94-1)	3 Carcinogen, mutagen	
Dichlorobromomethane or bromodichloromethane (75-27-4)	3 Suspected carcinogen	
1,1 dichloroethane (75-34-3)	3 Carcinogen	Solvent, fumigant
1,2 dichloroethylene (540-59-0)		Solvent for organic materials, dye extraction, perfumes, lacquers, thermoplastics, making other chemicals
dichloromethyl ether (4885-02-3)	3 Confirmed human carcinogen, mutagen	Lab chemical for making ion exchange columns
Dichlorophenol		
2,4 dichlorophenol (120-83-2)	3 Suspected carcinogen, poisonous	
2,6 dichlorophenol (87-65-0)	3 Poisonous depending on exposure route	
Dieldrin (60-57-1)	3 Probable carcinogen, reproductive hazard	Insecticide, wood preservative
Di (2-ethylhexyl) phthalate (117-81-7)	3 Carcinogen, mutagen, possible reproductive effects	Plasticizer
Diethyl phthalate (84-66-2)	3 Possible reproductive effects, poisonous	
Dimethylformamide (68-12-2)	3 Suspected carcinogen, mutagen, possible reproductive hazard	Solvent, making other chemicals
Dimethyl aniline or xylidine (1300-73-8)	3 EPA TSCA suspected human carcinogen	Making dyes, pharmaceuticals, and other chemicals

Dinitrotoluene (25321-14-6)	3 Confirmed carcinogen, mutagen	2,4 dinitrotoluene 121-44-2 is used for making plastics, dyes, other chemicals and explosives
Dioxane (123-91-1)	3 Carcinogen	Solvent for many products, lacquers and paints, varnishes, paint and varnish remover, in textile processing ,dye baths, stain and printing, cleaning and detergent preparations, cements, cosmetics, deodorants, fumigants, polishing compositions
Diphenylhydrazine (122-66-7)	3 diphenylhydrazine 1,2 – diphenylhydrazine carcinogen	
Ethylbenzene (100-41-4)	3 possible reproductive hazard	Making styrene and synthetic polymers, solvents, in automotive and aviation fuels
Endosulfan (115-29-7)	3	
Ethylene dichloride (107-06-2)	Confirmed carcinogen, reproductive hazard, narcotic	Making vinyl chloride, in gasoline, paint varnish and finish removers, metal degreasing, soaps, to make other chemicals
Endrin (72-20-8)	3 also called Hexadrin, Medrin mutagen, possible reproductive hazard	Insecticide, rodenticide
Ethoxyethanol (110-80-5)	2 Mutagen	Widely used as a solvent, in brake fluid and aviation /automotive fuels
Ethyl benzene (100-41-4)	3 Moderately toxic	Making styrene and synthetic polymers, solvent, automotive and aviation fuels
Ferrous sulfamate	Lethal dose is probably related to the iron content	
Fluoranthene (206-44-0)	3 Carcinogen	
Fluoride (16984-48-8)	3	Widely used in chemical, steel and aluminum industry, toothpaste, other dentifrices
Formaldehyde (50-00-0)	3 Confirmed carcinogen	Germicide, embalming fluid, it is in home insulation and wood products, resins, making other chemicals, fertilizer, dyes, preservatives, treatment of textiles, treatment of grain
Gadolinium (III) nitrate (1:3) (10168-81-7)	Questionable carcinogen	

Gasoline (8006-61-9)	3 Mutagen	Solvent, fuel for internal combustion engines
Heptachlor (76-44-8)	Suspected carcinogen, mutagen	Pesticide (especially termites)
Heptachlor epoxide or epoxyheptachlor (1024-57-3)	3 Carcinogen, mutagen, suspected reproductive hazard	Pesticide
Hexachlorobenzene (118-74-1)	3 Carcinogen, mutagen, suspected reproductive hazard	Fungicide for treating seeds, wood preservative, making other chemicals
Hexachlorobutadiene (87-68-3)	3 Suspected carcinogen, reproductive effects	Solvent, heat transfer fluid, transformer hydraulic fluid and wash liquor, used in making other chemicals
Hexachlorobutadiene (lindane) benzene hexachloride (608-73-1)	3 Carcinogen, mutagen	Pesticide
Hexachloroethane (67-72-1)	3 Suspected carcinogen, mutagen	Insecticide, animal medicines, solvent, explosives, camphor substitute in smoke making devices
Hydrochloric acid (7647-01-0)	3 Mutagen, corrosive	Used for making many other chemicals, to adjust pH in swimming pools, for metal processing, food processing, general cleaning, common laboratory chemical
Hydrofluoric acid (7664-39-3)	3 Mutagen corrosive	Making other chemicals, fluorocarbons, etching glass
Hydrofluosilicic acid (2589-15-3)	2	
Hydrogen sulfide (7783-06-4)	3	To test and make other chemicals, by-product of sewage treatment and other chemical reactions
Hydroxylamine nitrate hydroxylamine (7803-49-8)	3	

Hydroxylamine sulfate or oxammonium sulfate (10034-54-0)	3 Mutagen, corrosive	
8, hydroxyquinoline or 8, quinolinol	3	
Indeno pyrene (193-39-5)	3 Mutagen	
Isophorone (78-59-1)	3 Possible carcinogen, mutagen	Solvent for resins, making pesticides and lacquers
Kerosene (8008-20-6)	3 Suspected carcinogen, mutagen	Fuel, domestic heating, solvent, insecticide spray
Lead (7439-92-1)	3 Suspected carcinogen, mutagen	Resistant to corrosion, used in pigments and paints, solder, fusible alloys, storage batteries, gasoline additive, radiation shielding, cable covering, ammunition foil, bearing alloys
Lithium compounds	D Toxicity of lithium is a function of solubility in water, except strong bases such as lithium oxide; most hazardous is lithium hydride	
Manganous nitrate o (10377-66-9)	Mutagen	As a color agent in porcelain and ceramics, to make other chemicals
Mercury (7439-97-6)	3 Poison, corrosive, experimental reproductive effects	In dental fillings; making other chemicals; electrical equipment and instruments; mercury vapor lamps; mirror coating; as a coolant and neutron absorber in nuclear power plant
Methoxychlor (72-43-5)	3 Suspected carcinogen	Insecticide
Methyl bromide (74-83-9)	3 Suspected carcinogen, corrosive	Pesticide (use has been suspended), fumigant gas
Methyl chloride (74-87-3)	3 Chloromethane suspected carcinogen, mutagen, fire hazard	Making other chemicals, refrigerant, solvent, herbicide, topical anesthetic
Methyl ethyl ketone (MEK) (78-93-3)	3	Powder, cleaning fluids, printing, to produce "drugs of abuse," solvent, paint remover, cements and adhesives, making other chemicals, plastics, smokeless

Methyl isobutyl ketone (108-10-1)	3	Solvent
Methylene chloride (75-09-2)	3 Carcinogen,	Paint remover (stripping) in foods, furniture and plastics processing
Naptha (8030-30-6)	3 (and petroleum distillates) also called Benzin, coal tar naptha, varsol	Solvent, paint thinner, making other chemicals, in dynamite
Napthalene (91-20-3)	3 Also called camphor tar, white tar Possible carcinogen	Moth repellent, making other chemicals, dyes, plastics, resins, explosives and lubricants; fungicide; smokeless powder; cutting fluid; lubricant; synthetic tanning; preservative; antiseptic
Nickel compounds	3 Carcinogen, mutagen, human carcinogen if inhaled	Making metal alloys, cars, stainless steel, magnets; electroplating; alkaline storage batteries
Nitric acid (7697-37-2)	3 Corrosive	Making chemicals, dyes, fertilizers, drugs and explosives; used in metallurgy, photo-engraving, urethanes, rubber chemicals, and reprocessing nuclear fuel
Nitrilotriacetic acid or aminotriacetic acid (139-13-9)	3 Possible carcinogen	
Nitrobenzene (98-95-3)	3 Also called oil of mirbane poison, reproductive effects	Making shoe polish, dyes, explosives, floor and metal polish, other chemicals and paints
Nitrogen dioxide (10102-44-0)	3 reproductive effects	in production of chemicals – particularly nitric acid, in rocket fuels, polymerization, inhibitor of acrylates
Nitrophenol		
2, nitrophenol (88-75-5)	3	Making pesticides, dyes and other chemicals
3, nitrophenol (554-84-7)	3	Making pesticides, dyes, indicator solutions and other chemicals
4, nitrophenol (100-02-7)	3	Fungicide, making other chemicals

N-nitrosodimethylamine (62-75-9)	3 Confirmed carcinogen	Antioxidant, additive for lubricants, and softener of copolymers, solvent in fiber and plastics industry, used in condensers to increase dielectric constant, formally used as a nematocide, formerly used in production of rocket fuels, laboratory chemical
N-nitrosodiphenylamine (156-10-5)	3 Carcinogen	
N-nitrosodi-N-propylamine (621-64-7)	3 Confirmed carcinogen	
Nitrous oxide (10024-97-2)	2 Mutagen	Anesthetic in dentistry and surgery, propellant gas in food aerosols, leak detectors, foaming agent in whipped cream
Oxalic acid (144-62-7)	3	Wide-range of uses, automobile radiator cleaner, general metal and equipment cleaning, leather tanning, laboratory chemical, bleaching textiles and woods, permanent press resins
Ozone (10028-15-6)	3 Questionable carcinogen powerful oxidizing agent	Purifying air and water; industrial water treatment; bleaching waxes, oils, paper, textiles; making other chemicals, bactericide, steroid hormones
Pentachlorophenol (87-86-15)	3 Also called Pentacon, Permacide, Permite, Weedone, Thompsons Wood Fix; suspected human carcinogen	Making fungicides, bactericides, algaecides, herbicides; wood preservative; insecticide for termite control; general herbicide
Phenol (108-95-2)	3 Questionable carcinogen	Making pharmaceuticals, chemicals, plastics, resins, plywood, rubber, refining oils, fertilizer, coke, points, paint removers, asbestos goods, perfumes; general disinfectant in solution, bactericide, fungicide, veterinary antiseptic and anesthetic
Phenyl phenol		
o-phenyl phenol or 2-biphenylol (90-43-7) 2-phenyl phenol (90-43-7)	3 mutagen	Making fungicides, rubber, chemicals and dyestuffs

p-phenyl phenolor 4, biphenylol 4- phenyl phenol (92-69-3)	3 Acute poison, questionable carcinogen	
Phosphoric acid (7664-38-2)	3 Corrosive	Making metal products, gelatin , fertilizers; soaps and detergents, rust-proofing, pharmaceuticals, sugar refining, water treatment, animal feeds, eletro-polishing, gasoline additive, coating for metals, making other chemicals, fabric dyeing, yeasts, waxes and polishes, in ceramics, in foods and carbonated beverages, laboratory chemical
Polychlorinated biphenyl (PCB) (1336-36-3)	3 Suspected carcinogen	
Potassium fluoride (7789-23-3)	3 Highly corrosive	Etching glass, preservative, insecticide, in organic synthesis, solder flux
Potassium cyanide (151-50-8)	3 Deadly poison, mutagen, corrosive, reproductive hazard	To extract gold and silver from ore, electroplating, laboratory chemical, insecticide, to harden steel, fumigant
Potassium ferrocyanide two possibilities were suggested in SAX:		
Potassium hexacyanoferrate (II) (1445-95-1)	2	
Tetrapotassium hexacyanoferrate (forgot CAS)	1	
Potassium permanganate	3 strong irritant	In production of “drugs of abuse”, as a topical antibacterial agent, chemical reagent
Pyrene (8003-34-7)		Insecticide for store foods, household use, dairies
Ruthenium compounds (7440-18-8)	3	Hard metal crystals, toxic fumes when burned

Sodium arsenate or arsenic acid, sodium salt (7631-89-2)	Confirmed human carcinogen, reproductive hazard	Dyeing and printing, making other chemicals, germicide
Sodium hydroxide (1310-73-2)	3 Also called caustic soda, lye, strong base, corrosive; among the highest volume chemicals produced in the U.S.	Making other chemicals, mercerized cotton, processing vegetables and fruits, laboratory chemical, electro-plating, extraction of zinc, tin plating, oxide coating, etching, food additive, metal cleaner, laundering, bleaching, in making plastics
Stoddard solvent (8052-41-3)	3 Also called white spirits, dry cleaning solvent, varsol, veroline	Dry cleaning, spot and stain remover, degreasing, cleaning in mechanical shops, herbicide
Styrene (100-42-5)	3 Suspected carcinogen	Solvent, making plastics, synthetic rubber, protection coatings, resins, polyesters; making other chemicals
Sulfamic acid (5329-14-6)	3 Corrosive	Stabilizer or swimming pool chemicals, metal cleaning, making paper
Sulfuric acid (7664-93-9)	3 Powerful acid oxidizer, corrosive, combustible	Fertilizers, dyes, pigments, petroleum refining, etching, electro-plating, rayon, film, explosives, laboratory chemical, making iron and steel, making other chemicals
Tetrachloroethane (25322-20-7)	Suspected carcinogen, considered one of the most toxic of the chlorinated hydrocarbons	Making other chemicals, insecticides, paints, rust removers and varnishes
Tetrachloroethylene or perchloroethylene (127-18-4)	3 Confirmed carcinogen	Solvent and dry cleaning agent, degreasing, heat exchange fluid, insulating fluid and cooling gas for transformers, drying agent for metals, grain fumigant
Trimethylbenzene (25551-13-7)	1	Making other chemicals
Titanium compounds	Considered to be physiologically inert; dusts are considered in the nuisance category	Metal used in structural material in jet engines, marine equipment, chemical and surgical equipment
Toluene (108-88-3)	3 Derived from coal tar, commercial grades usually contain small amounts of benzene poison	Paint solvent, in aviation gasoline and high octane blending stock, making other chemicals, TNT, detergents, saccharine, medicines, dyes, perfumes, adhesive solvent
Toxaphene or chlorinated camphene	3 Confirmed carcinogen, reproductive hazard	Insecticide that resembles chlordane, primary for foliage of cotton, small grass and vegetables, livestock pest control, maggot killer

(8001-35-2)		
Tributyl phosphate (126-73-8)	3	Solvent, plasticizer, making pigments, anti-foam agent
Trichloroacetic acid (76-03-9)	3 Also called AMCHEM grass killer, Vantox questionable carcinogen, corrosive	Herbicide: to make medicines, drugs, herbicides, pesticides and other chemicals; laboratory chemical
1,2,4 trichlorobenzene (120-82-1)	3 Poison, possible reproductive hazard	Making insecticides, fungicides and other chemicals; heat transfer fluids
Trichloroethane or methyl chloroform (71-55-6)	3 Suspected carcinogen, poisonous	Cleaning solvent, metal degreasing, pesticide, making and finishing textiles, making other chemicals, aerosol propellant
Trichloroethylene (79-01-6)	3 Also called Vestral, Fleck-flip, Trimar, Perm-a-clean suspected carcinogen, mutagen	Solvent for oils, fats, waxes; degreasing and dry cleaning; solvent; dyeing; refrigerant; heat exchange fluid; fumigant; in paints and adhesives; textile processing; making other chemicals; a common air contaminant
2,4,6 trichlorophenol (88-06-2)	3 Confirmed carcinogen, some mutagen data	Preservative, in insecticides, treating mildew, germicide
2,3,6, trichlorophenol	3	
2,4,5 trichlorophenol (95-95-4)	3 Suspected carcinogen	
Uranium (7440-61-1)		Production of nuclear fuel
Uranyl nitrate (36478-76-9)	3	
Velpar or hexazinone (51235-04-2)	2	Herbicide
Vinyl chloride (75-01-4)	3 Confirmed human carcinogen, mutagen	Making other chemicals, refrigerant, adhesive for plastics
Xylene (1330-20-7)	3 May contain benzene, a carcinogen	Aviation gasoline, protective coatings, solvent for alkyd resins, lacquers, enamels, rubber cements, synthesis of organic chemicals

Xylidine (1300-73-8)	3 Also called acid leather brown 3G, or acid orange 24, resource brown J, dimethylaniline suspected human carcinogen	Making dyes, pharmaceuticals, and other chemicals
Zinc compounds (7440-66-6)	Variable toxicity, carcinogens	Galvanized coatings in iron and steel sheet metal production, making paint, dyes, brass metal alloys, batteries, laboratory chemicals