

## CHAPTER 8

### REPRODUCTIVE HAZARDS

#### Overview

This chapter supplements previous chapters by giving specific extra precautions, postings, training, and protective equipment necessary when working with reproductive hazards. These include chemical, biological, or radiological substances that can affect the developing fetus, or the reproductive health of the male or female parents. This chapter also outlines the UNC conceptus protection policy for laboratory workers who are pregnant or contemplating pregnancy. The appendix at the end of the chapter is a thorough (but not exhaustive) list of known reproductive toxins that might be present in your laboratory.

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## CHAPTER 8

### REPRODUCTIVE HAZARDS

#### I. Introduction

Work with reproductive hazards requires special containment practices in addition to those described in [Chapter 6](#) for toxic chemicals and in the [Biological Safety Manual](#). Reproductive hazards are defined by the OSHA Laboratory Standard as substances that cause chromosomal damage (mutagens) and substances with lethal or teratogenic (malformation) effects on fetuses. These can include chemicals, biological materials, and radioactive materials. The University policy for protecting pregnant employees is provided later in the section entitled “Reproductive Hazards and the Pregnant Employee”. For a list of known reproductive toxins, refer to Appendix 8-A.

#### II. Laboratory Safety Plans

Laboratories working with reproductive hazards must include standard operating procedures in the Laboratory Safety Plan describing the hazards of the compounds or agents, safety precautions and emergency procedures in the event of a spill. Complete and submit a Laboratory Safety Plan [online](#). In addition to the safety practices described for use of toxic materials, several other special safety precautions are necessary for reproductive toxins.

#### III. Facility Requirements

Establish a "designated area", with access restricted to personnel who are aware of the hazards of the substances in use and the necessary precautions. A foot or elbow operated handwash facility and an eyewash facility must be available within the work area. A shower facility, other than emergency drench showers, must be located in the building.

Exhaust ventilation systems are designed to maintain an inflow of air from the corridor into the work area. The exhaust air from the work area must discharge directly to the outdoors, and clear of occupied buildings and air intakes. Exhaust air from the work area must not recirculate. The exhaust air from glove boxes must filter through high-efficiency particulate air (HEPA) and charcoal filters. EHS shall determine the need for and type of treatment for other primary containment equipment. Exhaust air treatment systems that remove toxic chemicals from the exhaust air by collection mechanisms such as filtration or absorption must operate in a manner that permits maintenance, in order to avoid direct contact with the collection medium. All exhaust air from primary containment equipment must discharge directly to the outdoors and disperse clear of occupied buildings and intakes. The EHS Director (or designee) must approve the purchase and installation of any non-ducted hoods. Non-ducted hoods will not be approved for use with volatile chemicals. Approval will be granted only in exceptional cases, and only when particulate handling (e.g., weighing solids) is its sole use.

#### IV. Protective Clothing (Refer to Chapter 5: Protective Clothing and Equipment)

Wear a full-fastened laboratory coat or a disposable jump suit in any area where known or suspected reproductive toxins are in use. Clean clothing must be provided weekly and cannot be worn outside of the work area. Following an obvious exposure, decontaminate or dispose immediately all contaminated clothing. Do not send contaminated clothing to the laundry until decontaminated. Wear appropriate gloves ([LSM Appendix 5-B](#)) when handling reproductive toxins. EHS recommends double gloving. Discard disposable gloves after each use and immediately after known contact with a reproductive toxin.

#### V. Use of Primary Containment Equipment

Procedures involving volatile chemicals, and those involving solid or liquid chemicals that may result in the generation of aerosols, must occur in a laboratory hood, biological safety cabinet, glove box, or other suitable containment equipment. Examples of aerosol-producing procedures include: opening closed vessels; transfer operations; weighing; preparing feed mixtures; and the application, injection or intubation of a chemical into experimental animals. Class II, type B biological safety cabinets are suitable for the conduct of tissue culture and other biological procedures involving reproductive toxins. The Principal Investigator is to obtain guidance from EHS on the selection and use of Class II biological safety cabinets. For more information on biological safety cabinets, refer to [Chapter 16: Biological Safety Cabinets](#). Primary containment equipment used for reproductive toxins must display a label bearing the legend: CAUTION - REPRODUCTIVE TOXIN, Authorized Personnel Only. The examples below in Figures 8.1 through 8.3 are available on the [EHS Safety Labels webpage](#) for printing.



Figure 8.1 - Label for storage areas or primary containment equipment where reproductive toxins are present.

A clean bench (Chapter 16, Section III) is a laminar flow cabinet that provides a flow of filtered air over the work service and offers product protection, not personnel protection. Do not use reproductive toxins in them. Clean benches are posted by the lab or EHS with the following information:

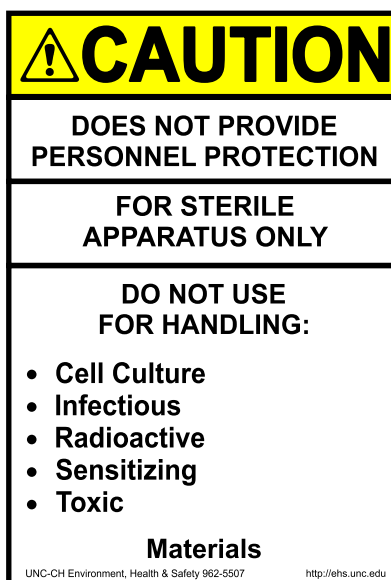


Figure 8.2 - Example posting for clean benches.

## VI. Use and Decontamination of Analytical Instrumentation

Analytical instruments used with reproductive toxins must be entirely within a laboratory hood. When this is impossible, capture the vapors or aerosols produced by these instruments through local exhaust ventilation at the site of their production. When you remove a sample from the analytical instrument, place it in a tightly stoppered sample tube, or otherwise safeguarded from contaminating the laboratory. Do not use contaminated analytical equipment until it has been completely decontaminated. The following are some decontamination guidelines. Contact EHS if you have additional questions about equipment decontamination.

Safely remove, drain, or discharge chemicals from the equipment, collecting the chemicals for re-use or hazardous waste disposal. If applicable, use an inert gas or liquid to purge the chemical residues. In some cases, the rinsate might require disposal as hazardous waste. For equipment with non-permeable surfaces, decontaminate by scrubbing with warm, soapy water. For equipment that also might contain biological contamination, follow the soapy water wash with a 1:10 bleach solution soak. Rinse the equipment after at least 10 minutes contact time with the bleach.

## VII. Storage, Inventory and Identification

Store stock quantities of reproductive toxins in designated storage areas. Post these storage areas with signs bearing the legend: CAUTION - REPRODUCTIVE TOXIN, Authorized Personnel Only (Figure 8.1).

Label all storage vessels containing stock quantities with the following information: CAUTION - REPRODUCTIVE TOXIN (Figure 8.3 or similar). This smaller label, which does not include the “Authorized Personnel Only” statement necessary for containment equipment or storage areas, is available at [EHS Safety Labels webpage](#)..



Figure 8.3 – Label for storage vessels that contain reproductive toxins.

### **VIII. Working Quantities**

Keep quantities of reproductive toxins in the work area to a minimum. Quantities should not normally exceed the amounts required for use in one week. Use the label depicted in Figure 8.3 (or similar) for storage vessels containing working quantities of reproductive toxins.

### **IX. Laboratory Transport**

Place storage vessels containing reproductive toxins in an unbreakable outer container before transporting them from storage areas to laboratory work areas. Place contaminated materials to transfer from work areas to disposal areas in a closed plastic bag or other suitable impermeable and sealed primary container, and place the primary container in a durable outer container before transporting. Label the outer container with both the name of the substance and the hazard information from Figure 8.3.

### **X. Protection of Vacuum Lines**

Each vacuum service, including water aspirators, must have protection via an absorbent or liquid trap and a HEPA filter to prevent entry of any reproductive toxin into the system. When using a volatile chemical, use a separate vacuum pump or other device placed in an appropriate laboratory hood.

### **XI. Packaging and Shipping**

Package reproductive toxins to withstand shocks, pressure changes, or other condition that could cause the leakage of contents incident to ordinary handling during transportation. Shipments must be in accordance with DOT and IATA regulations. These regulations state that you must receive specific training in order to ship a hazardous material. The [EHS website](#) has more information regarding training and guidance on shipping and labeling.

## **XII. Decontamination**

Before disposing you must inactivate, or absorb by appropriate means, *in situ* reproductive toxins that spill out of a primary container and create a hazard. Contaminated materials require either decontamination by procedures that decompose the chemical, or removal for subsequent disposal. Means for assuring the adequacy of clean up are required; for instance, wipe tests or fluorescence tests.

## **XIII. Disposal**

EHS must approve all plans for handling and ultimate disposal of contaminated wastes. Write these into the Laboratory Safety Plan, Schedule B, and fully describe the reproductive toxins in your waste stream when submitting an online hazardous materials transfer form. Refer to [Chapter 12: Management of Laboratory Wastes](#) for additional guidance.

## **XIV. Animal Experimentation**

In all circumstances, research and animal care personnel must wear a disposable jumpsuit or lab coat, shoe coverings, hair covering, gloves, and a respiratory comfort mask when entering DLAM animal housing facilities or procedure rooms (refer to [Chapter 14: Safe Handling of Laboratory Animals](#)). As discussed in Chapter 5, comfort masks are not respirators. The comfort masks provided in several DLAM facilities do not protect you from airborne exposures; instead, they protect the laboratory animals from your exhalations. Personnel with exposure to airborne particulates contaminated with reproductive toxins without the use of primary containment must wear an appropriate respirator of N95 or higher protection, rather than a comfort mask. Refer to the [Respiratory Protection section of Chapter 5: Protective Clothing and Equipment](#), for a description of respirator types.

EHS must approve the selection and use of respirators, and wearers are to participate in the [UNC Respiratory Protection Program](#).

Do not wear the comfort mask or respirator outside of the animal room or procedure room. For tight-fitting cartridge respirators, dispose of used filters and decontaminate the respirator housing daily.

## **XV. Reproductive Hazards and the Pregnant Employee**

### **A. Introduction**

Reproductive toxins are defined by the OSHA Laboratory Standard as substances that cause chromosomal damage (mutagens) and/or substances with lethal or teratogenic (malformation) effects on fetuses. Teratogens may affect the conceptus at any stage of its development, from fertilization to birth, although damage is most likely during the first 8 to 10 weeks of pregnancy. Mutagens can also affect conceptus development, or prevent fertilization entirely by damaging

the egg or sperm. In addition, there are microbiological agents that can cause maternal morbidity, miscarriage, fetal death or birth defects.

Teratogens are chemical and physical agents that interfere with normal embryonic development. Teratogens differ from mutagens in that there must be a developing fetus. Reproductive toxins may produce congenital malformations or death of the fetus without inducing damage to the pregnant woman. In general, you should consider carcinogenic, mutagenic and teratogenic chemicals hazards to reproductive health. Even though OSHA has established hazardous material exposure limits, a developing fetus can suffer adverse effects at lower doses than those considered safe for adults. Thus, you must keep exposures as low as reasonably achievable to minimize reproductive health hazards.

UNC is committed to providing additional protection for the conceptus, and establish specific procedures to protect pregnant employees. Control of employee exposures will occur without economic penalty or loss of job opportunity, including, if necessary, consideration for work assignment changes, consistent with University personnel policy. Assuring protection from exposures to radiation and/or chemicals for the conceptus requires full cooperation of the employee with the Department of Environment, Health and Safety (EHS). If you wish to take advantage of this policy, contact EHS as soon as possible after determining or contemplating pregnancy, to ensure implementation of these policies.

## **B. Chemical and Radiological Reproductive Hazards**

A thorough list of known reproductive toxins is found in Appendix 8-A to this Chapter. This list includes agents that cause fetal developmental toxicity, damage the male/female reproductive cells, or other difficulty with conception. Examples of reproductive toxins commonly found in laboratories include:

1,3-Butadiene	Ethylene thiourea
Arsenic	Fluorouracil
Benzene	Halothane
Cadmium	Ionizing radiation
Carbon disulfide	Lead
Dibromochloropropane	Mercury compounds
Ethylene dibromide	Polychlorinated biphenols (PCBs)
Ethylene glycol monomethyl (and ethyl) ethers	Toluene
Ethylene oxide	Urethane

Please refer to Appendix 8-A for a thorough listing.



### C. Microbiological Reproductive Hazards

Certain microbiological agents can cause miscarriages, fetal death and birth defects. Employees can be exposed to these agents via splashes or contact with mucous membranes, needlesticks or ingestion. The following agents are known to be reproductive hazards:

- **Cytomegalovirus (CMV).** CMV is a known teratogen and congenital infection can cause mental retardation, cerebral palsy, epilepsy, vision and hearing problems especially during the first 20 weeks of fetal development.
- **Hepatitis A, B, C.** Prenatal infection can cause prematurity and psychomotor retardation.
- **Human Immunodeficiency Virus (HIV).** HIV can affect fertility. HIV can also be transmitted to the fetus.
- **Human Parvovirus (Fifth Disease).** Prenatal infection with human parvovirus can cause fetal edema and death. Intrauterine infection may cause fetal anaemia.
- **Listeria monocytogenes.** This bacterium is found in a variety of animals including mammals and birds so is of special concern to employees handling animals. Perinatal infections occur transplacentally and can result in abortion, stillbirth, meningitis, endocarditis, or septicemia.
- **Rubella virus (German measles).** Congenital rubella syndrome (CRS) may occur in infants born to women who had rubella during the first trimester. This can lead to fetal death, spontaneous abortions, congenital malformations of the eyes, ears and heart, mental retardation and/or poor childhood growth. The risk decreases with fetal development.
- **Toxoplasma gondii (toxoplasmosis).** Congenital cases can result in abortion and stillbirth. Live births may result in central nervous system disorders, hydrocephaly, or mental retardation. Transplacental infection is least likely during the first trimester, but these cases are the most severe. Cats can carry this disease and employees conducting experiments with cats may need to take additional precautions.
- **Varicella virus (Chicken Pox).** Congenital infection can cause limb atrophy, microcephaly, cortical atrophy, motor, sensory and eye problems. Infection during the first trimester can cause miscarriage, muscular atrophy, clubbed foot, CNS disease and cataracts in the fetus.

This list is not all-inclusive and EHS will evaluate work exposures to all infectious materials once an employee has declared her pregnancy.

## **D. Declared Pregnancy**

If you wish the University to be involved in protecting your fetus, and exposures to the fetus kept below the 500 millirems limit if you are a radiation worker, you must declare your actual, suspected, or planned pregnancy to your supervisor and EHS in writing, or by e-mail. The University's responsibility for conceptus protection begins only after receipt of this notice of pregnancy, or intended pregnancy, to your supervisor and EHS. The involvement of supervisors is an essential part of the University's safety management. EHS urges every potentially pregnant employee to consider her supervisor's safety responsibilities and freely involve the supervisor in all work-related situations.

## **E. Conceptus Protection Program**

Following written or e-mail notice of pregnancy or intended pregnancy to the EHS Director, Biological Safety Officer, Chemical Hygiene Officer, or Radiation Safety Officer (RSO), EHS institutes a Conceptus Protection Program (CPP). The CPP consists of three elements.

### **(1) Confidential Conferences**

Conferences include the employee, her supervisor, and EHS specialists. The employee is provided a copy of this policy and other pertinent literature on protecting pregnant employees from chemical, biological and radiological exposures. Following the conference, EHS sends an assessment report to the employee and supervisor relating findings and recommendations of work involving hazardous materials. In some cases, adjustments should be made in work responsibilities, if practicable, to avoid higher risk operations.

An additional interview is available with an occupational health nurse or physician at the University Employee Occupational Health Clinic. This interview allows the employee to express concerns and to ask questions about reproductive and developmental health. A review of an occupational and reproductive health questionnaire facilitates collection of employee-specific information, assists the employee in formulating concerns about chemical and physical hazards, and provides structure and focus for the interview. A preconception planning stage is also available. Obstetric specialists are available for consultation or referral for any specific concerns.

EHS understands that employees may choose to maintain their pregnancy status as personally confidential for a time. Any employee may still receive safety information about pregnancy and chemical, biological, and radiological exposures at any time from EHS without declaring her pregnancy status.

### **(2) EHS Review of Laboratory Safety**

EHS will conduct a review of the laboratory or worksite safety plan to ensure that it provides appropriate guidance to protect workers and prevent occupational exposures. EHS inspects the work place to ensure that adequate engineering controls, such as

laboratory hoods, are provided, and that safe handling procedures and the use of personal protective equipment are in place. Employees have the responsibility of adhering to University safety procedures described in the Laboratory (or worksite) Safety Plan, the Health and Safety Manual, Laboratory Safety Manual, Biological Safety Manual and the Radiation Safety Manual.

### **(3) Radiation and Chemical Exposure Monitoring**

EHS will monitor employee exposures levels for radiation and any chemicals of concern, especially those with evidence of reproductive toxicity. The employee and principal investigator, or supervisor, shall receive a copy of the monitoring report. The goal is to keep all exposures as low as reasonably achievable.

EHS performs the personnel radiation monitoring through the Radiation Safety section. EHS assigns the radiation employee a monthly radiation badge and/or places her on a monthly bioassay program.

## **F. Action Levels**

### **(1) Radiation Exposures**

Current investigational radiation dose limits for declared pregnant or planned pregnancy employees will direct the RSO in evaluating reported doses. The North Carolina Regulations for Protection Against Radiation has established a radiation dose limit of 500 millirems for the conceptus during the entire gestation period.

Action Level I: employees with exposures greater than 30 millirems in a month. The RSO or designee shall send a written description of the dose report statistics, including the dose history for the previous two monitoring periods, to the person involved with a copy to the Authorized User. EHS asks the individual and their supervisor to review his or her radiation safety procedures and work habits in an effort to maintain all doses as low as reasonably achievable. Health physics reviews and consultation are available.

Action Level II: greater than 40 millirems in a month. The RSO shall conduct a direct investigation of the situation, including an interview with the person involved. The RSO prepares a written investigation report, including trends over the past one year (as available) for that person. The RSO provides a copy of the report to the employee for review and signature. Conclusions drawn from the investigation provide a basis for confirming or modifying the dose and for establishing corrective actions to undertake.

When the occupational radiation dose of a declared radiation employee exceeds 50 millirems in a month since declaration, the employee may request:

- Maternity leave (for those employees actually pregnant),
- Other paid leave,
- Leave without pay,
- Reassignment within their work unit, or

- Transfer.

The supervisor should respond to requests in accordance with Human Resources personnel policies.

EHS and the Radiation Protection Section of the NC Department of Environment and Natural Resources accept doses reported from personnel monitoring badges generally as an uncorrected guide to any conceptus dose. If personnel monitoring results indicate the possibility of a conceptus dose in excess of the 500-millirem limit, a special investigation will result. The investigation will take into full consideration the type and energy of radiation involved, protective shielding that might have mitigated conceptus dose, and shielding afforded by the mother's body. The employee and EHS will discuss the investigation results, and a written report provided.

### **(2) Chemical Exposures**

As stated earlier, the goal is to keep all exposures to both radiation and chemicals as low as reasonably achievable. The actions taken in response to a measured chemical exposure depend on the specific circumstances and chemicals involved. However, as a general rule, if any exposure measurements exceed 10% of the threshold limit value (TLV) or permissible exposure limit (PEL) action will be taken to prevent further exposure by instituting engineering controls, improved work practices, personal protective equipment (PPE), or job reassignment.

### **(3) Microbiological Exposures**

There are no action levels for microbiological agents. Many of the agents listed above can be safely handled at Biosafety Level 2 practices and containment (culturing HIV requires Biosafety Level 3 practices). Biosafety Level 2 practices include wearing gloves, labcoats and eye protection, conducting any aerosol generating procedures inside of a biological safety cabinet, decontamination of surfaces, frequent handwashing, and no eating, drinking, smoking or handling contacts in areas where infectious materials are handled. Please refer to the UNC [Biological Safety Manual](#) for more detailed information. These practices are required to protect the employee; however, some procedures conducted in the laboratory may be higher risk for pregnant employees and should be evaluated by EHS. In addition, the risks to the fetus from exposure to these pathogens may warrant restriction from use during a pregnancy. EHS in consultation with the employee and their supervisor will determine when restriction or additional personal protective equipment is necessary.

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

The following list comes from the State of California, which by law requires the Governor to revise and republish at least annually the list of chemicals known by the State to cause reproductive toxicity and cancer, commonly known as the [Proposition 65 list](#). Listed below are the substances from the Proposition 65 list that exhibit fetal development toxicity or female/male reproductive toxicity. The date of listing is in the right-hand column.

List date: July 26, 2013

<u>Chemical</u>	<u>Type of Toxicity</u>	<u>CAS No.</u>	<u>Date Listed</u>
A-alpha-C (2-Amino-9H-pyrido[2,3-b]indole)	cancer	26148-68-5	01-Jan-90
Acetaldehyde	cancer	75-07-0	01-Apr-88
Acetamide	cancer	60-35-5	01-Jan-90
Acetazolamide	developmental	59-66-5	20-Aug-99
Acetochlor	cancer	34256-82-1	01-Jan-89
Acetohydroxamic acid	developmental	546-88-3	01-Apr-90
2-Acetylaminofluorene	cancer	53-96-3	01-Jul-87
Acifluorfen sodium	cancer	62476-59-9	01-Jan-90
Acrylamide	cancer	79-06-1	01-Jan-90
Acrylamide	developmental, male	79-06-1	25-Feb-11
Acrylonitrile	cancer	107-13-1	01-Jul-87
Actinomycin D	cancer	50-76-0	01-Oct-89
Actinomycin D	developmental	50-76-0	01-Oct-92
AF-2;[2-(2-furyl)-3-(5-nitro-2-furyl)]acrylamide	cancer	3688-53-7	01-Jul-87
Aflatoxins	cancer	---	01-Jan-88
Alachlor	cancer	15972-60-8	01-Jan-89
Alcoholic beverages, when associated with alcohol abuse	cancer	---	01-Jul-88
Aldrin	cancer	309-00-2	01-Jul-88
All-trans retinoic acid	developmental	302-79-4	01-Jan-89
Alprazolam	developmental	28981-97-7	01-Jul-90
Altretamine	developmental, male	645-05-6	20-Aug-99
Amantadine hydrochloride	developmental	665-66-7	27-Feb-01
Amikacin sulfate	developmental	39831-55-5	01-Jul-90
2-Aminoanthraquinone	cancer	117-79-3	01-Oct-89
p-Aminoazobenzene	cancer	60-09-3	01-Jan-90
o-Aminoazotoluene	cancer	97-56-3	01-Jul-87
4-Aminobiphenyl (4-aminodiphenyl)	cancer	92-67-1	27-Feb-87
1-Amino-2,4-dibromoanthraquinone	cancer	81-49-2	26-Aug-97
3-Amino-9-ethylcarbazole hydrochloride	cancer	6109-97-3	01-Jul-89
2-Aminofluorene	cancer	153-78-6	29-Jan-99
Aminoglutethimide	developmental	125-84-8	01-Jul-90
Aminoglycosides	developmental	---	01-Oct-92
1-Amino-2-methylantraquinone	cancer	82-28-0	01-Oct-89
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	cancer	712-68-5	01-Jul-87
4-Amino-2-nitrophenol	cancer	119-34-6	29-Jan-99
Aminopterin	developmental, female	54-62-6	01-Jul-87
Amiodarone hydrochloride	developmental, female, male	19774-82-4	26-Aug-97
Amitraz	developmental	33089-61-1	30-Mar-99
Amitrole	cancer	61-82-5	01-Jul-87
Amoxapine	developmental	14028-44-5	15-May-98
Amsacrine	cancer	51264-14-3	07-Aug-09
tert-Amyl methyl ether	developmental	994-05-8	18-Dec-09
Anabolic steroids	female, male	---	01-Apr-90
Analgesic mixtures containing Phenacetin	cancer	---	27-Feb-87
Androstenedione	cancer	63-05-8	03-May-11
Angiotensin converting enzyme (ACE) inhibitors	developmental	---	01-Oct-92

**APPENDIX 8-A: REPRODUCTIVE TOXINS LIST**

Aniline	cancer	62-53-3	01-Jan-90
Aniline hydrochloride	cancer	142-04-1	15-May-98
o-Anisidine	cancer	90-04-0	01-Jul-87
o-Anisidine hydrochloride	cancer	134-29-2	01-Jul-87
Anisindione	developmental	117-37-3	01-Oct-92
Anthraquinone	cancer	84-65-1	28-Sep-07
Antimony oxide (Antimony trioxide)	cancer	1309-64-4	01-Oct-90
Aramite	cancer	140-57-8	01-Jul-87
Areca nut	cancer	---	03-Feb-06
Aristolochic acids	cancer	---	09-Jul-04
Arsenic (inorganic arsenic compounds)	cancer	--	27-Feb-87
Arsenic (inorganic oxides)	developmental	---	01-May-97
Asbestos	cancer	1332-21-4	27-Feb-87
Aspirin (NOTE: It is especially important not to use aspirin during the last three months of pregnancy, unless specifically directed to do so by a physician because it may cause problems in the unborn child or complications during delivery.)	developmental, female	50-78-2	01-Jul-90
Atenolol	developmental	29122-68-7	26-Aug-97
Auramine	cancer	492-80-8	01-Jul-87
Auranofin	developmental	34031-32-8	29-Jan-99
Avermectin B1 (Abamectin)	developmental	71751-41-2	03-Dec-10
Azacididine	cancer	320-67-2	01-Jan-92
Azaserine	cancer	115-02-6	01-Jul-87
Azathioprine	cancer	446-86-6	27-Feb-87
Azathioprine	developmental	446-86-6	01-Sep-96
Azobenzene	cancer	103-33-3	01-Jan-90
Barbiturates	developmental	---	01-Oct-92
Beclomethasone dipropionate	developmental	5534-09-8	15-May-98
Benomyl	developmental, male	17804-35-2	01-Jul-91
Benthiavalicarb-isopropyl	cancer	177406-68-7	01-Jul-08
Benz[a]anthracene	cancer	56-55-3	01-Jul-87
Benzene	cancer	71-43-2	27-Feb-87
Benzene	developmental, male	71-43-2	26-Dec-97
Benzidine [and its salts]	cancer	92-87-5	27-Feb-87
Benzidine-based dyes	cancer	---	01-Oct-92
Benzodiazepines	developmental	---	01-Oct-92
Benzo[b]fluoranthene	cancer	205-99-2	01-Jul-87
Benzo[j]fluoranthene	cancer	205-82-3	01-Jul-87
Benzo[k]fluoranthene	cancer	207-08-9	01-Jul-87
Benzofuran	cancer	271-89-6	01-Oct-90
Benzophenone	cancer	119-61-9	22-Jun-12
Benzo[a]pyrene	cancer	50-32-8	01-Jul-87
Benzotrichloride	cancer	98-07-7	01-Jul-87
Benzphetamine hydrochloride	developmental	5411-22-3	01-Apr-90
Benzyl chloride	cancer	100-44-7	01-Jan-90
Benzyl violet 4B	cancer	1694-09-3	01-Jul-87
Beryllium and beryllium compounds	cancer	---	01-Oct-87
Beryllium			
Beryllium oxide			
Beryllium sulfate			
Betel quid with tobacco	cancer	---	01-Jan-90
Betel quid without tobacco	cancer	---	03-Feb-06
2,2-Bis(bromomethyl)-1,3-propanediol	cancer	3296-90-0	01-May-96
Bis(2-chloroethyl)ether	cancer	111-44-4	01-Apr-88
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornapazine)	cancer	494-03-1	27-Feb-87
Bischloroethyl nitrosourea (BCNU) (Carmustine)	cancer	154-93-8	01-Jul-87
Bischloroethyl nitrosourea (BCNU) (Carmustine)	developmental	154-93-8	01-Jul-90
Bis(chloromethyl)ether	cancer	542-88-1	27-Feb-87

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Bis(2-chloro-1-methylethyl)ether, technical grade	cancer	---	29-Oct-99
Bitumens, extracts of steam-refined and air refined	cancer	---	01-Jan-90
Bracken fern	cancer	---	01-Jan-90
Bromacil lithium salt	developmental	53404-19-6	18-May-99
Bromacil lithium salt	male	53404-19-6	17-Jan-03
Bromate	cancer	15541-45-4	31-May-02
Bromochloroacetic acid	cancer	5589-96-8	06-Apr-10
Bromodichloromethane	cancer	75-27-4	01-Jan-90
Bromoethane	cancer	74-96-4	22-Dec-00
Bromoform	cancer	75-25-2	01-Apr-91
1-Bromopropane (1-BP)	developmental, female, male	106-94-5	07-Dec-04
2-Bromopropane (2-BP)	female, male	75-26-3	31-May-05
Bromoxynil	developmental	1689-84-5	01-Oct-90
Bromoxynil octanoate	developmental	1689-99-2	18-May-99
Butabarbital sodium	developmental	143-81-7	01-Oct-92
1,3-Butadiene	cancer	106-99-0	01-Apr-88
1,3-Butadiene	developmental, female, male	106-99-0	16-Apr-04
1,4-Butanediol dimethanesulfonate (Busulfan)	cancer	55-98-1	27-Feb-87
1,4-Butanediol dimethanesulfonate (Busulfan)	developmental	55-98-1	01-Jan-89
Butylated hydroxyanisole	cancer	25013-16-5	01-Jan-90
Butyl benzyl phthalate (BBP)d	developmental	85-68-7	02-Dec-05
n-Butyl glycidyl ether	male	2426-08-6	07-Aug-09
beta-Butyrolactone	cancer	3068-88-0	01-Jul-87
Cacodylic acid	cancer	75-60-5	01-May-96
Cadmium	developmental, male	---	01-May-97
Cadmium and cadmium compounds	cancer	---	01-Oct-87
Cadmium			
Caffeic acid	cancer	331-39-5	01-Oct-94
Captafol	cancer	2425-06-1	01-Oct-88
Captan	cancer	133-06-2	01-Jan-90
Carbamazepine	developmental	298-46-4	29-Jan-99
Carbaryl	cancer	63-25-2	05-Feb-10
Carbaryl	developmental, male	63-25-2	07-Aug-09
Carbazole	cancer	86-74-8	01-May-96
Carbon black (airborne, unbound particles of respirable size)	cancer	1333-86-4	21-Feb-03
Carbon disulfide	developmental, female, male	75-15-0	01-Jul-89
Carbon monoxide	developmental	630-08-0	01-Jul-89
Carbon tetrachloride	cancer	56-23-5	01-Oct-87
Carbon-black extracts	cancer	---	01-Jan-90
Carboplatin	developmental	41575-94-4	01-Jul-90
N-Carboxymethyl-N-nitrosourea	cancer	60391-92-6	25-Jan-02
Catechol	cancer	120-80-9	15-Jul-03
Ceramic fibers (airborne particles of respirable size)	cancer	---	01-Jul-90
Certain combined chemotherapy for lymphomas	cancer	---	27-Feb-87
Chenodiol	developmental	474-25-9	01-Apr-90
Chlorambucil	cancer	305-03-3	27-Feb-87
Chlorambucil	developmental	305-03-3	01-Jan-89
Chlorcyclizine hydrochloride	developmental	1620-21-9	01-Jul-87
Chlordane	cancer	57-74-9	01-Jul-88
Chlordecone (Kepone)	cancer	143-50-0	01-Jan-88
Chlordecone (Kepone)	developmental	143-50-0	01-Jan-89
Chlordiazepoxide	developmental	58-25-3	01-Jan-92
Chlordiazepoxide hydrochloride	developmental	438-41-5	01-Jan-92
Chlordimeform	cancer	6164-98-3	01-Jan-89
Chlorendic acid	cancer	115-28-6	01-Jul-89
Chlorinated paraffins (Average chain length, C12;approximately 60 percent chlorine by weight)	cancer	108171-26-2	01-Jul-89
p-Chloroaniline	cancer	106-47-8	01-Oct-94

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p-Chloroaniline hydrochloride	cancer	20265-96-7	15-May-98
Chloroethane (Ethyl chloride)	cancer	75-00-3	01-Jul-90
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)	cancer	13010-47-4	01-Jan-88
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)	developmental	13010-47-4	01-Jul-90
1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (Methyl-CCNU)	cancer	13909-09-6	01-Oct-88
Chloroform	cancer	67-66-3	01-Oct-87
Chloroform	developmental	67-66-3	07-Aug-09
Chloromethyl methyl ether (technical grade)	cancer	107-30-2	27-Feb-87
3-Chloro-2-methylpropene	cancer	563-47-3	01-Jul-89
1-Chloro-4-nitrobenzene	cancer	100-00-5	29-Oct-99
4-Chloro-o-phenylenediamine	cancer	95-83-0	01-Jan-88
Chloroprene	cancer	126-99-8	02-Jun-00
2-Chloropropionic acid	male	598-78-7	07-Aug-09
Chlorothalonil	cancer	1897-45-6	01-Jan-89
p-Chloro-o-toluidine	cancer	95-69-2	01-Jan-90
p-Chloro-o-toluidine, strong acid salts of p-Chloro-o-toluidine, hydrochloride	cancer	---	15-May-98
5-Chloro-o-toluidine and its strong acid salts	cancer	---	24-Oct-97
Chlorotrianiene	cancer	569-57-3	01-Sep-96
Chlorozotocin	cancer	54749-90-5	01-Jan-92
Chlorsulfuron [ <a href="#">Click here for the basis for removal of male reproductive toxicity endpoint</a> ]	developmental, female, male	64902-72-3	14-May-99
Chromium (hexavalent compounds)	cancer	---	27-Feb-87
Chromium (hexavalent compounds)	developmental, female, male	---	19-Dec-08
Chrysene	cancer	218-01-9	01-Jan-90
C.I. Acid Red 114	cancer	6459-94-5	01-Jul-92
C.I. Basic Red 9 monohydrochloride	cancer	569-61-9	01-Jul-89
C.I. Direct Blue 15	cancer	2429-74-5	26-Aug-97
C.I. Direct Blue 218	cancer	28407-37-6	26-Aug-97
C.I. Disperse Yellow 3	cancer	2832-40-8	08-Feb-13
C.I. Solvent Yellow 14	cancer	842-07-9	15-May-98
Cyclosporin (Cyclosporin A; Cyclosporine)	cancer	59865-13-3; 79217-60-0	01-Jan-92
Cidofovir	cancer, developmental, female, male	113852-37-2	29-Jan-99
Cinnamyl anthranilate	cancer	87-29-6	01-Jul-89
Cisplatin	cancer	15663-27-1	01-Oct-88
Citrus Red No. 2	cancer	6358-53-8	01-Oct-89
Cladribine	developmental	4291-63-8	01-Sep-96
Clarithromycin	developmental	81103-11-9	01-May-97
Clobetasol propionate	developmental, female	25122-46-7	15-May-98
Clofibrate	cancer	637-07-0	01-Sep-96
Clomiphene citrate	cancer	50-41-9	24-May-13
Clomiphene citrate	developmental	50-41-9	01-Apr-90
Clorazepate dipotassium	developmental	57109-90-7	01-Oct-92
Cobalt metal powder	cancer	7440-48-4	01-Jul-92
Cobalt [II] oxide	cancer	1307-96-6	01-Jul-92
Cobalt sulfate	cancer	10124-43-3	20-May-05
Cobalt sulfate heptahydrate	cancer	10026-24-1	02-Jun-00
Cocaine	developmental, female	50-36-2	01-Jul-89
Coconut oil diethanolamine condensate (cocamide diethanolamine)	cancer	68603-42-9	22-Jun-12
Codeine phosphate	developmental	52-28-8	15-May-98
Coke oven emissions	cancer	---	27-Feb-87
Colchicine	developmental, male	64-86-8	01-Oct-92
Conjugated estrogens	cancer	---	27-Feb-87
Conjugated estrogens	developmental	---	01-Apr-90
Creosotes	cancer	---	01-Oct-88
p-Cresidine	cancer	120-71-8	01-Jan-88



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Cumene	cancer	98-82-8	06-Apr-10
Cupferron	cancer	135-20-6	01-Jan-88
Cyanazine	developmental	21725-46-2	01-Apr-90
Cycasin	cancer	14901-08-7	01-Jan-88
Cycloate	developmental	1134-23-2	19-Mar-99
Cycloheximide	developmental	66-81-9	01-Jan-89
Cyclopenta[cd]pyrene	cancer	27208-37-3	29-Apr-11
Cyclophosphamide (anhydrous)	cancer	50-18-0	27-Feb-87
Cyclophosphamide (anhydrous)	developmental, female, male	50-18-0	01-Jan-89
Cyclophosphamide (hydrated)	cancer	6055-19-2	27-Feb-87
Cyclophosphamide (hydrated)	developmental, female, male	6055-19-2	01-Jan-89
Cyhexatin	developmental	13121-70-5	01-Jan-89
Cytarabine	developmental	147-94-4	01-Jan-89
Cytembena	cancer	21739-91-3	15-May-98
D&C Orange No. 17	cancer	3468-63-1	01-Jul-90
D&C Red No. 8	cancer	2092-56-0	01-Oct-90
D&C Red No. 9	cancer	5160-02-1	01-Jul-90
D&C Red No. 19	cancer	81-88-9	01-Jul-90
Dacarbazine	cancer	4342-03-4	01-Jan-88
Dacarbazine	developmental	4342-03-4	29-Jan-99
Daminozide	cancer	1596-84-5	01-Jan-90
Danazol	developmental	17230-88-5	01-Apr-90
Dantron (Chrysazin; 1,8-Dihydroxyanthraquinone)	cancer	117-10-2	01-Jan-92
Daunomycin	cancer	20830-81-3	01-Jan-88
Daunorubicin hydrochloride	developmental	23541-50-6	01-Jul-90
DDD (Dichlorodiphenyl-dichloroethane)	cancer	72-54-8	01-Jan-89
DDE (Dichlorodiphenyl-dichloroethylene)	cancer	72-55-9	01-Jan-89
DDT (Dichlorodiphenyl-trichloroethane)	cancer	50-29-3	01-Oct-87
o,p'-DDT	developmental, female, male	789-02-6	15-May-98
p,p'-DDT	developmental, female, male	50-29-3	15-May-98
DDVP (Dichlorvos)	cancer	62-73-7	01-Jan-89
Demeclocycline hydrochloride (internal use)	developmental	64-73-3	01-Jan-92
N,N'-Diacetylbenzidine	cancer	613-35-4	01-Oct-89
2,4-Diaminoanisole	cancer	615-05-4	01-Oct-90
2,4-Diaminoanisole sulfate	cancer	39156-41-7	01-Jan-88
4,4'-Diaminodiphenyl ether (4,4'-Oxydianiline)	cancer	101-80-4	01-Jan-88
2,4-Diaminotoluene	cancer	95-80-7	01-Jan-88
Diaminotoluene (mixed)	cancer	---	01-Jan-90
Diazepam	developmental	439-14-5	01-Jan-92
Diazoaminobenzene	cancer	136-35-6	20-May-05
Diazoxide	developmental	364-98-7	27-Feb-01
Dibenz[a,h]acridine	cancer	226-36-8	01-Jan-88
Dibenz[a,j]acridine	cancer	224-42-0	01-Jan-88
Dibenz[a,h]anthracene	cancer	53-70-3	01-Jan-88
7H-Dibenzo[c,g]carbazole	cancer	194-59-2	01-Jan-88
Dibenzo[a,e]pyrene	cancer	192-65-4	01-Jan-88
Dibenzo[a,h]pyrene	cancer	189-64-0	01-Jan-88
Dibenzo[a,i]pyrene	cancer	189-55-9	01-Jan-88
Dibenzo[a,l]pyrene	cancer	191-30-0	01-Jan-88
Dibromoacetic acid	cancer	631-64-1	17-Jun-08
Dibromoacetonitrile	cancer	3252-43-5	03-May-11
1,2-Dibromo-3-chloropropane (DBCP)	cancer	96-12-8	01-Jul-87
1,2-Dibromo-3-chloropropane (DBCP)	male	96-12-8	27-Feb-87
2,3-Dibromo-1-propanol	cancer	96-13-9	01-Oct-94
Dichloroacetic acid	cancer	79-43-6	01-May-96
Dichloroacetic acid	male	79-43-6	07-Aug-09
p-Dichlorobenzene	cancer	106-46-7	01-Jan-89
3,3'-Dichlorobenzidine	cancer	91-94-1	01-Oct-87

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3,3'-Dichlorobenzidine dihydrochloride	cancer	612-83-9	15-May-98
1,1-Dichloro-2,2-bis(p-chloropheny)ethylene (DDE)	developmental, male	72-55-9	30-Mar-10
1,4-Dichloro-2-butene	cancer	764-41-0	01-Jan-90
3,3'-Dichloro-4,4'-diamino-diphenyl ether	cancer	28434-86-8	01-Jan-88
1,1-Dichloroethane	cancer	75-34-3	01-Jan-90
Dichloromethane (Methylene chloride)	cancer	75-09-2	01-Apr-88
Dichlorophene	developmental	97-23-4	27-Apr-99
Dichlorphenamide	developmental	120-97-8	27-Feb-01
Diclofop-methyl	cancer	51338-27-3	06-Apr-10
Diclofop methyl	developmental	51338-27-3	05-Mar-99
1,2-Dichloropropane	cancer	78-87-5	01-Jan-90
1,3-Dichloro-2-propanol (1,3-DCP)	cancer	96-23-1	08-Oct-10
1,3-Dichloropropene	cancer	542-75-6	01-Jan-89
Dicumarol	developmental	66-76-2	01-Oct-92
Dieldrin	cancer	60-57-1	01-Jul-88
Diepoxybutane	cancer	1464-53-5	01-Jan-88
Diesel engine exhaust	cancer	---	01-Oct-90
Diethanolamine	cancer	111-42-2	22-Jun-12
Di(2-ethylhexyl)phthalate	cancer	117-81-7	01-Jan-88
Di(2-ethylhexyl)phthalate	developmental, male	117-81-7	24-Oct-03
1,2-Diethylhydrazine	cancer	1615-80-1	01-Jan-88
Diethylstilbestrol (DES)	cancer	56-53-1	27-Feb-87
Diethylstilbestrol (DES)	developmental	56-53-1	01-Jul-87
Diethyl sulfate	cancer	64-67-5	01-Jan-88
Diflunisal	developmental, female	22494-42-4	29-Jan-99
Diglycidyl ether	male	2238-07-5	07-Aug-09
Diglycidyl resorcinol ether (DGRE)	cancer	101-90-6	01-Jul-89
Dihydroergotamine mesylate	developmental	6190-39-2	01-May-97
Dihydrosafrole	cancer	94-58-6	01-Jan-88
Diisopropyl sulfate	cancer	2973-10-6	01-Apr-93
Di-isodecyl phthalate (DIDP)	developmental	68515-49-1/ 26761-40-0	20-Apr-07
Diltiazem hydrochloride	developmental	33286-22-5	27-Feb-01
3,3'-Dimethoxybenzidine (o-Dianisidine)	cancer	119-90-4	01-Jan-88
3,3'-Dimethoxybenzidine dihydrochloride	cancer	20325-40-0	01-Oct-90
3,3'-Dimethoxybenzidine-based dyes metabolized to 3,3'-dimethoxybenzidine	cancer	---	11-Jun-04
N,N-Dimethylacetamide	developmental	127-19-5	21-May-10
4-Dimethylaminoazobenzene	cancer	60-11-7	01-Jan-88
trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	cancer	55738-54-0	01-Jan-88
7,12-Dimethylbenz(a)anthracene	cancer	57-97-6	01-Jan-90
3,3'-Dimethylbenzidine (ortho-Tolidine)	cancer	119-93-7	01-Jan-88
3,3'-Dimethylbenzidine dihydrochloride	cancer	612-82-8	01-Apr-92
3,3'-Dimethylbenzidine-based dyes metabolized to 3,3'-dimethylbenzidine	cancer	---	11-Jun-04
Dimethylcarbonyl chloride	cancer	79-44-7	01-Jan-88
1,1-Dimethylhydrazine (UDMH)	cancer	57-14-7	01-Oct-89
1,2-Dimethylhydrazine	cancer	540-73-8	01-Jan-88
2,6-Dimethyl-N-nitrosomorpholine (DMNM)	cancer	1456-28-6	08-Feb-13
Dimethyl sulfate	cancer	77-78-1	01-Jan-88
Dimethylvinylchloride	cancer	513-37-1	01-Jul-89
Di-n-butyl phthalate (DBP)	developmental, female, male	84-74-2	02-Dec-05
Di-n-hexyl phthalate (DnHP)	female, male	84-75-3	02-Dec-05
m-Dinitrobenzene	male	99-65-0	01-Jul-90
o-Dinitrobenzene	male	528-29-0	01-Jul-90
p-Dinitrobenzene	male	100-25-4	01-Jul-90
3,7-Dinitrofluoranthene	cancer	105735-71-5	26-Aug-97
3,9-Dinitrofluoranthene	cancer	22506-53-2	26-Aug-97

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1,3-Dinitropyrene	cancer	75321-20-9	02-Nov-12
1,6-Dinitropyrene	cancer	42397-64-8	01-Oct-90
1,8-Dinitropyrene	cancer	42397-65-9	01-Oct-90
2,4-Dinitrotoluene	cancer	121-14-2	01-Jul-88
2,4-Dinitrotoluene	male	121-14-2	20-Aug-99
2,6-Dinitrotoluene	cancer	606-20-2	01-Jul-95
2,6-Dinitrotoluene	male	606-20-2	20-Aug-99
Dinitrotoluene (technical grade)	female, male	---	20-Aug-99
Dinitrotoluene mixture, 2,4-/2,6-	cancer	---	01-May-96
Dinocap	developmental	39300-45-3	01-Apr-90
Dinoseb	developmental, male	88-85-7	01-Jan-89
Di-n-propyl isocinchomeronate (MGK Repellent 326)	cancer	136-45-8	01-May-96
1,4-Dioxane	cancer	123-91-1	01-Jan-88
Diphenylhydantoin (Phenytoin)	cancer	57-41-0	01-Jan-88
Diphenylhydantoin (Phenytoin)	developmental	57-41-0	01-Jul-87
Diphenylhydantoin (Phenytoin), sodium salt	cancer	630-93-3	01-Jan-88
Direct Black 38 (technical grade)	cancer	1937-37-7	01-Jan-88
Direct Blue 6 (technical grade)	cancer	2602-46-2	01-Jan-88
Direct Brown 95 (technical grade)	cancer	16071-86-6	01-Oct-88
Disodium cyanodithioimidocarbonate	developmental	138-93-2	30-Mar-99
Disperse Blue 1	cancer	2475-45-8	01-Oct-90
Diuron	cancer	330-54-1	31-May-02
Doxorubicin hydrochloride (Adriamycin)	cancer	25316-40-9	01-Jul-87
Doxorubicin hydrochloride (Adriamycin)	developmental, male	25316-40-9	29-Jan-99
Doxycycline (internal use)	developmental	564-25-0	01-Jul-90
Doxycycline calcium (internal use)	developmental	94088-85-4	01-Jan-92
Doxycycline hyclate (internal use)	developmental	24390-14-5	01-Oct-91
Doxycycline monohydrate (internal use)	developmental	17086-28-1	01-Oct-91
Emissions from combustion of coal	cancer	---	07-Aug-13
Endrin	developmental	72-20-8	15-May-98
Environmental tobacco smoke (ETS)	developmental	---	09-Jun-06
Epichlorohydrin	cancer	106-89-8	01-Oct-87
Epichlorohydrin	male	106-89-8	01-Sep-96
Epoxiconazole	cancer	135319-73-2	15-Apr-11
Ergotamine tartrate	developmental	379-79-3	01-Apr-90
Erionite	cancer	12510-42-8; 66733-21-9	01-Oct-88
Estradiol 17B	cancer	50-28-2	01-Jan-88
Estragole	cancer	140-67-0	29-Oct-99
Estrogens, steroidal	cancer	---	19-Aug-05
Estrogen-progestogen (combined) used as menopausal therapy	cancer	---	04-Nov-11
Estrone	cancer	53-16-7	01-Jan-88
Estropipate	cancer, developmental	7280-37-7	26-Aug-97
Ethanol in alcoholic beverages	cancer	---	29-Apr-11
Ethinylestradiol	cancer	57-63-6	01-Jan-88
Ethionamide	developmental	536-33-4	26-Aug-97
Ethoprop	cancer	13194-48-4	27-Feb-01
Ethyl acrylate	cancer	140-88-5	01-Jul-89
Ethyl alcohol in alcoholic beverages	developmental	---	01-Oct-87
Ethylbenzene	cancer	100-41-4	11-Jun-04
Ethyl-tert-butyl ether	male	637-92-3	18-Dec-09
Ethyl dipropylthiocarbamate	developmental	759-94-4	27-Apr-99
Ethyl-4,4'-dichlorobenzilate	cancer	510-15-6	01-Jan-90
Ethylene dibromide	cancer	106-93-4	01-Jul-87
Ethylene dibromide	developmental, male	106-93-4	15-May-98
Ethylene dichloride (1,2-Dichloroethane)	cancer	107-06-2	01-Oct-87
Ethylene glycol monoethyl ether	developmental, male	110-80-5	01-Jan-89
Ethylene glycol monoethyl ether acetate	developmental, male	111-15-9	01-Jan-93

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Ethylene glycol monomethyl ether	developmental, male	109-86-4	01-Jan-89
Ethylene glycol monomethyl ether acetate	developmental, male	110-49-6	01-Jan-93
Ethyleneimine	cancer	151-56-4	01-Jan-88
Ethylene oxide	cancer	75-21-8	01-Jul-87
Ethylene oxide	female	75-21-8	27-Feb-87
Ethylene oxide	developmental, male	75-21-8	07-Aug-09
Ethylene thiourea	cancer	96-45-7	01-Jan-88
Ethylene thiourea	developmental	96-45-7	01-Jan-93
2-Ethylhexanoic acid	developmental	149-57-5	07-Aug-09
Ethyl methanesulfonate	cancer	62-50-0	01-Jan-88
Etodolac	developmental, female	41340-25-4	20-Aug-99
Etoposide	cancer	33419-42-0	04-Nov-11
Etoposide	developmental	33419-42-0	01-Jul-90
Etoposide in combination with cisplatin and bleomycin	cancer	---	04-Nov-11
Etretinate	developmental	54350-48-0	01-Jul-87
Fenoxaprop ethyl	developmental	66441-23-4	26-Mar-99
Fenoxycarb	cancer	72490-01-8	02-Jun-00
Filgrastim	developmental	121181-53-1	27-Feb-01
Fluazifop butyl	developmental	69806-50-4	06-Nov-98
Flunisolide	developmental, female	3385-03-3	15-May-98
Fluorouracil	developmental	51-21-8	01-Jan-89
Fluoxymesterone	developmental	76-43-7	01-Apr-90
Flurazepam hydrochloride	developmental	1172-18-5	01-Oct-92
Flurbiprofen	developmental, female	5104-49-4	20-Aug-99
Flutamide	developmental	13311-84-7	01-Jul-90
Fluticasone propionate	developmental	80474-14-2	15-May-98
Fluvalinate	developmental	69409-94-5	06-Nov-98
Folpet	cancer	133-07-3	01-Jan-89
Formaldehyde (gas)	cancer	50-00-0	01-Jan-88
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	cancer	3570-75-0	01-Jan-88
Fumonisin B1	cancer	116355-83-0	14-Nov-03
Furan	cancer	110-00-9	01-Oct-93
Furazolidone	cancer	67-45-8	01-Jan-90
Furmecyclox	cancer	60568-05-0	01-Jan-90
Fusarin C	cancer	79748-81-5	01-Jul-95
Gallium arsenide	cancer	1303-00-0	01-Aug-08
Ganciclovir	cancer, developmental, male	82410-32-0	26-Aug-97
Ganciclovir sodium	developmental, male	107910-75-8	26-Aug-97
Gasoline engine exhaust (condensates/extracts)	cancer	---	01-Oct-90
Gemfibrozil	cancer	25812-30-0	22-Dec-00
Gemfibrozil	female, male	25812-30-0	20-Aug-99
Glass wool fibers (inhalable and biopersistent)	cancer	---	01-Jul-90
Glu-P-1 (2-Amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole)	cancer	67730-11-4	01-Jan-90
Glu-P-2 (2-Aminodipyrido[1,2-a:3',2'-d]imidazole)	cancer	67730-10-3	01-Jan-90
Glycidaldehyde	cancer	765-34-4	01-Jan-88
Glycidol	cancer	556-52-5	01-Jul-90
Goserelin acetate	developmental, female, male	65807-02-5	26-Aug-97
Griseofulvin	cancer	126-07-8	01-Jan-90
Gyromitrin (Acetaldehyde methylformylhydrazone)	cancer	16568-02-8	01-Jan-88
Halazepam	developmental	23092-17-3	01-Jul-90
Halobetasol propionate	developmental	66852-54-8	20-Aug-99
Haloperidol	developmental, female	52-86-8	29-Jan-99
Halothane	developmental	151-67-7	01-Sep-96
HC Blue 1	cancer	2784-94-3	01-Jul-89
Heptachlor	cancer	76-44-8	01-Jul-88
Heptachlor	developmental	76-44-8	20-Aug-99
Heptachlor epoxide	cancer	1024-57-3	01-Jul-88

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Herbal remedies containing plant species of the genus Aristolochia	cancer	---	09-Jul-04
Hexachlorobenzene	cancer	118-74-1	01-Oct-87
Hexachlorobenzene	developmental	118-74-1	01-Jan-89
Hexachlorobutadiene	cancer	87-68-3	03-May-11
Hexachlorocyclohexane (technical grade)	cancer	---	01-Oct-87
Hexachlorocyclohexane (alpha isomer)			
Hexachlorocyclohexane (beta isomer)			
Hexachlorocyclohexane (gamma isomer)			
Hexachlorodibenzodioxin	cancer	34465-46-8	01-Apr-88
Hexachloroethane	cancer	67-72-1	01-Jul-90
2,4-Hexadienal (89% trans, trans isomer; 11% cis, trans isomer)	cancer	---	04-Mar-05
Hexafluoroacetone	male	684-16-2	01-Aug-08
Hexamethylphosphoramide	cancer	680-31-9	01-Jan-88
Hexamethylphosphoramide	male	680-31-9	01-Oct-94
Histrelin acetate	developmental	---	15-May-98
Hydramethylnon	developmental, male	67485-29-4	05-Mar-99
Hydrazine	cancer	302-01-2	01-Jan-88
Hydrazine sulfate	cancer	10034-93-2	01-Jan-88
Hydrazobenzene (1,2-Diphenylhydrazine)	cancer	122-66-7	01-Jan-88
Hydrogen cyanide (HCN) and cyanide salts (CN salts)	male	---	05-Jul-13
1-Hydroxyanthraquinone	cancer	129-43-1	27-May-05
Hydroxyurea	developmental	127-07-1	01-May-97
Idarubicin hydrochloride	developmental, male	57852-57-0	20-Aug-99
Ifosfamide	developmental	3778-73-2	01-Jul-90
Iodine-131	developmental	10043-66-0	01-Jan-89
Imazalil	cancer	35554-44-0	20-May-11
Indeno [1,2,3-cd]pyrene	cancer	193-39-5	01-Jan-88
Indium phosphide	cancer	22398-80-7	27-Feb-01
IQ (2-Amino-3-methylimidazo[4,5-f] quinoline)	cancer	76180-96-6	01-Apr-90
Iprodione	cancer	36734-19-7	01-May-96
Iprovalicarb	cancer	140923-17-7 & 140923-25-7	01-Jun-07
Iron dextran complex	cancer	9004-66-4	01-Jan-88
Isobutyl nitrite	cancer	542-56-3	01-May-96
Isoprene	cancer	78-79-5	01-May-96
Isopyrazam	cancer	881685-58-1	24-Jul-12
Isotretinoin	developmental	4759-48-2	01-Jul-87
Isoxaflutole	cancer	141112-29-0	22-Dec-00
Kresoxim-methyl	cancer	143390-89-0	03-Feb-12
Lactofen	cancer	77501-63-4	01-Jan-89
Lasiocarpine	cancer	303-34-4	01-Apr-88
Lead	developmental, female, male	---	27-Feb-87
Lead and lead compounds	cancer	---	01-Oct-92
Lead			
Lead acetate	cancer	301-04-2	01-Jan-88
Lead phosphate	cancer	7446-27-7	01-Apr-88
Lead subacetate	cancer	1335-32-6	01-Oct-89
Leather dust	cancer	---	29-Apr-11
Leuprolide acetate	developmental, female, male	74381-53-6	26-Aug-97
Levodopa	developmental	59-92-7	29-Jan-99
Levonorgestrel implants	female	797-63-7	15-May-98
Lindane and other hexachlorocyclohexane isomers	cancer	---	01-Oct-89
Linuron	developmental	330-55-2	19-Mar-99
Lithium carbonate	developmental	554-13-2	01-Jan-91
Lithium citrate	developmental	919-16-4	01-Jan-91
Lorazepam	developmental	846-49-1	01-Jul-90
Lovastatin	developmental	75330-75-5	01-Oct-92

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Lynestrenol	cancer	52-76-6	27-Feb-01
Malonaldehyde, sodium salt	cancer	24382-04-5	29-Apr-11
Mancozeb	cancer	8018-01-7	01-Jan-90
Maneb	cancer	12427-38-2	01-Jan-90
Marijuana smoke	cancer	---	19-Jun-09
Me-A-alpha-C (2-Amino-3-methyl-9H-pyrido[2,3-b]indole)	cancer	68006-83-7	01-Jan-90
Mebendazole	developmental	31431-39-7	20-Aug-99
Medroxyprogesterone acetate	cancer	71-58-9	01-Jan-90
Medroxyprogesterone acetate	developmental	71-58-9	01-Apr-90
Megestrol acetate	developmental	595-33-5	01-Jan-91
MelQ (2-Amino-3,4-dimethylimidazo[4,5-f]quinoline)	cancer	77094-11-2	01-Oct-94
MelQx (2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline)	cancer	77500-04-0	01-Oct-94
Melphalan	cancer	148-82-3	27-Feb-87
Melphalan	developmental	148-82-3	01-Jul-90
Menotropins	developmental	9002-68-0	01-Apr-90
Mepanipyrim	cancer	110235-47-7	01-Jul-08
Meproamate	developmental	57-53-4	01-Jan-92
Mercaptopurine	developmental	6112-76-1	01-Jul-90
Mercury and mercury compounds	developmental	---	01-Jul-90
Merphalan	cancer	531-76-0	01-Apr-88
Mestranol	cancer	72-33-3	01-Apr-88
Metam potassium	cancer	137-41-7	31-Dec-10
Methacycline hydrochloride	developmental	3963-95-9	01-Jan-91
Metham sodium	cancer	137-42-8	06-Nov-98
Metham sodium	developmental	137-42-8	15-May-98
Methanol	developmental	67-56-1	16-Mar-12
Methazole	developmental	20354-26-1	01-Dec-99
Methimazole	developmental	60-56-0	01-Jul-90
Methotrexate	developmental	59-05-2	01-Jan-89
Methotrexate sodium	developmental	15475-56-6	01-Apr-90
5-Methoxy psoralen with ultraviolet A therapy	cancer	484-20-8	01-Oct-88
8-Methoxy psoralen with ultraviolet A therapy	cancer	298-81-7	27-Feb-87
2-Methylaziridine (Propyleneimine)	cancer	75-55-8	01-Jan-88
Methylazoxymethanol	cancer	590-96-5	01-Apr-88
Methylazoxymethanol acetate	cancer	592-62-1	01-Apr-88
Methyl bromide, as a structural fumigant	developmental	74-83-9	01-Jan-93
Methyl carbamate	cancer	598-55-0	15-May-98
Methyl chloride	developmental	74-87-3	10-Mar-00
Methyl chloride	male	74-87-3	07-Aug-09
3-Methylcholanthrene	cancer	56-49-5	01-Jan-90
5-Methylchrysene	cancer	3697-24-3	01-Apr-88
4,4'-Methylene bis(2-chloroaniline)	cancer	101-14-4	01-Jul-87
4,4'-Methylene bis(N,N-dimethyl)benzenamine	cancer	101-61-1	01-Oct-89
4,4'-Methylene bis(2-methylaniline)	cancer	838-88-0	01-Apr-88
4,4'-Methylenedianiline	cancer	101-77-9	01-Jan-88
4,4'-Methylenedianiline dihydrochloride	cancer	13552-44-8	01-Jan-88
Methyleugenol	cancer	93-15-2	16-Nov-01
Methylhydrazine and its salts	cancer	---	01-Jul-92
Methylhydrazine			
Methylhydrazine sulfate			
2-Methylimidazole	cancer	693-98-1	22-Jun-12
4-Methylimidazole	cancer	822-36-6	07-Jan-11
Methyl iodide	cancer	74-88-4	01-Apr-88
Methyl isobutyl ketone	cancer	108-10-1	04-Nov-11
Methyl isocyanate (MIC)	developmental, female	624-83-9	12-Nov-10
Methyl isopropyl ketone	developmental	563-80-4	17-Feb-12
Methyl mercury	developmental	---	01-Jul-87
Methylmercury compounds	cancer	---	01-May-96

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Methyl methanesulfonate	cancer	66-27-3	01-Apr-88
Methyl n-butyl ketone	male	591-78-6	07-Aug-09
2-Methyl-1-nitroanthraquinone (of uncertain purity)	cancer	129-15-7	01-Apr-88
N-Methyl-N'-nitro-N-nitrosoguanidine	cancer	70-25-7	01-Apr-88
N-Methylolacrylamide	cancer	924-42-5	01-Jul-90
N-Methylpyrrolidone	developmental	872-50-4	15-Jun-01
$\alpha$ -Methyl styrene (alpha-Methylstyrene)	cancer	98-83-9	02-Nov-12
$\alpha$ -Methyl styrene	female	98-83-9	29-Jul-11
Methyltestosterone	developmental	58-18-4	01-Apr-90
Methylthiouracil	cancer	56-04-2	01-Oct-89
Metiram	cancer	9006-42-2	01-Jan-90
Metiram	developmental	9006-42-2	30-Mar-99
Metronidazole	cancer	443-48-1	01-Jan-88
Michler's ketone	cancer	90-94-8	01-Jan-88
Midazolam hydrochloride	developmental	59467-96-8	01-Jul-90
Minocycline hydrochloride (internal use)	developmental	13614-98-7	01-Jan-92
Mirex	cancer	2385-85-5	01-Jan-88
Misoprostol	developmental	59122-46-2	01-Apr-90
Mitomycin C	cancer	50-07-7	01-Apr-88
Mitoxantrone hydrochloride	developmental	70476-82-3	01-Jul-90
Molinate	developmental, female, male	2212-67-1	11-Dec-09
MON 4660 (dichloroacetyl-1-oxa-4-azaspiro(4,5)-decane	cancer	71526-07-3	22-Mar-11
MON 13900 (furilazole)	cancer	121776-33-8	22-Mar-11
3-Monochloropropane-1,2-diol (3-MCDP)	cancer	96-24-2	08-Oct-10
Monocrotaline	cancer	315-22-0	01-Apr-88
MOPP (vincristine-prednisone-nitrogen mustard-procarbazine mixture)	cancer	113803-47-7	04-Nov-11
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxazolidinone	cancer	139-91-3	01-Apr-88
Mustard Gas	cancer	505-60-2	27-Feb-87
MX (3-chloro-4-dichloromethyl-5-hydroxy-2(5H)-furanone)	cancer	77439-76-0	22-Dec-00
Myclobutanil	developmental, male	88671-89-0	16-Apr-99
Nabam	developmental	142-59-6	30-Mar-99
Nafarelin acetate	developmental	86220-42-0	01-Apr-90
Nafenopin	cancer	3771-19-5	01-Apr-88
Nalidixic acid	cancer	389-08-2	15-May-98
Naphthalene	cancer	91-20-3	19-Apr-02
1-Naphthylamine	cancer	134-32-7	01-Oct-89
2-Naphthylamine	cancer	91-59-8	27-Feb-87
Neomycin sulfate (internal use)	developmental	1405-10-3	01-Oct-92
Netilmicin sulfate	developmental	56391-57-2	01-Jul-90
Nickel (Metallic)	cancer	7440-02-0	01-Oct-89
Nickel acetate	cancer	373-02-4	01-Oct-89
Nickel carbonate	cancer	3333-67-3	01-Oct-89
Nickel carbonyl	cancer	13463-39-3	01-Oct-87
Nickel carbonyl	developmental	13463-39-3	01-Sep-96
Nickel compounds	cancer	---	07-May-04
Nickel hydroxide	cancer	12054-48-7; 12125-56-3	01-Oct-89
Nickelocene	cancer	1271-28-9	01-Oct-89
Nickel oxide	cancer	1313-99-1	01-Oct-89
Nickel refinery dust from the pyrometallurgical process	cancer	---	01-Oct-87
Nickel subsulfide	cancer	12035-72-2	01-Oct-87
Nicotine	developmental	54-11-5	01-Apr-90
Nifedipine	developmental, female, male	21829-25-4	29-Jan-99
Nimodipine	developmental	66085-59-4	24-Apr-01
Niridazole	cancer	61-57-4	01-Apr-88
Nitrapyrin	cancer	1929-82-4	05-Oct-05
Nitrapyrin	developmental	1929-82-4	30-Mar-99
Nitilotriacetic acid	cancer	139-13-9	01-Jan-88

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Nitrlotriacetic acid, trisodium salt monohydrate	cancer	18662-53-8	01-Apr-89
5-Nitroacenaphthene	cancer	602-87-9	01-Apr-88
o-Nitroanisole	cancer	91-23-6	01-Oct-92
Nitrobenzene	cancer	98-95-3	26-Aug-97
Nitrobenzene	male	98-95-3	30-Mar-10
4-Nitrobiphenyl	cancer	92-93-3	01-Apr-88
6-Nitrochrysene	cancer	7496-02-8	01-Oct-90
Nitrofen (technical grade)	cancer	1836-75-5	01-Jan-88
2-Nitrofluorene	cancer	607-57-8	01-Oct-90
Nitrofurantoin	male	67-20-9	01-Apr-91
Nitrofurazone	cancer	59-87-0	01-Jan-90
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	cancer	555-84-0	01-Apr-88
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	cancer	531-82-8	01-Apr-88
Nitrogen mustard (Mechlorethamine)	cancer	51-75-2	01-Jan-88
Nitrogen mustard (Mechlorethamine)	developmental	51-75-2	01-Jan-89
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	cancer	55-86-7	01-Apr-88
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	developmental	55-86-7	01-Jul-90
Nitrogen mustard N-oxide	cancer	126-85-2	01-Apr-88
Nitrogen mustard N-oxide hydrochloride	cancer	302-70-5	01-Apr-88
Nitromethane	cancer	75-52-5	01-May-97
2-Nitropropane	cancer	79-46-9	01-Jan-88
1-Nitropyrene	cancer	5522-43-0	01-Oct-90
4-Nitropyrene	cancer	57835-92-4	01-Oct-90
N-Nitrosodiethanolamine	cancer	1116-54-7	01-Jan-88
N-Nitrosodiethylamine	cancer	55-18-5	01-Oct-87
N-Nitrosodimethylamine	cancer	62-75-9	01-Oct-87
N-Nitrosodi-n-butylamine	cancer	924-16-3	01-Oct-87
N-Nitrosodi-n-propylamine	cancer	621-64-7	01-Jan-88
p-Nitrosodiphenylamine	cancer	156-10-5	01-Jan-88
N-Nitrosodiphenylamine	cancer	86-30-6	01-Apr-88
3-(N-Nitrosomethylamino) propionitrile	cancer	60153-49-3	01-Apr-90
4-(N-Nitrosomethylamino)-1-(3-pyridyl)1-butanone	cancer	64091-91-4	01-Apr-90
N-Nitrosomethylethylamine	cancer	10595-95-6	01-Oct-89
N-Nitrosomethylvinylamine	cancer	4549-40-0	01-Jan-88
N-Nitrosomorpholine	cancer	59-89-2	01-Jan-88
N-Nitroso-N-ethylurea	cancer	759-73-9	01-Oct-87
N-Nitroso-N-methylurea	cancer	684-93-5	01-Oct-87
N-Nitroso-N-methylurethane	cancer	615-53-2	01-Apr-88
N-Nitrosornicotine	cancer	16543-55-8	01-Jan-88
N-Nitrosopiperidine	cancer	100-75-4	01-Jan-88
N-Nitrosopyrrolidine	cancer	930-55-2	01-Oct-87
N-Nitrososarcosine	cancer	13256-22-9	01-Jan-88
o-Nitrotoluene	cancer	88-72-2	15-May-98
Nitrous oxide	developmental	10024-97-2	01-Aug-08
Norethisterone (Norethindrone)	cancer	68-22-4	01-Oct-89
Norethisterone (Norethindrone)	developmental	68-22-4	01-Apr-90
Norethisterone acetate (Norethindrone acetate)	developmental	51-98-9	01-Oct-91
Norethisterone (Norethindrone) /Ethinyl estradiol	developmental	68-22-4 57-63-6	01-Apr-90
Norethisterone (Norethindrone) /Mestranol	developmental	68-22-4 72-33-3	01-Apr-90
Norethynodrel	cancer	68-23-5	27-Feb-01
Norgestrel	developmental	6533-00-2	01-Apr-90
Ochratoxin A	cancer	303-47-9	01-Jul-90
Oil Orange SS	cancer	2646-17-5	01-Apr-88
Oral contraceptives, combined	cancer	---	01-Oct-89
Oral contraceptives, sequential	cancer	---	01-Oct-89
Oryzalin	cancer	19044-88-3	12-Sep-08



## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Oxadiazon	cancer	19666-30-9	01-Jul-91
Oxadiazon	developmental	19666-30-9	15-May-98
Oxazepam	cancer	604-75-1	01-Oct-94
Oxazepam	developmental	604-75-1	01-Oct-92
p,p'-Oxybis(benzenesulfonyl hydrazide)	developmental	80-51-3	07-Aug-09
Oxydemeton methyl	female, male	301-12-2	06-Nov-98
Oxymetholone	cancer	434-07-1	01-Jan-88
Oxymetholone	developmental	434-07-1	01-May-97
Oxytetracycline (internal use)	developmental	79-57-2	01-Jan-91
Oxytetracycline hydrochloride (internal use)	developmental	2058-46-0	01-Oct-91
Oxythioquinox (Chinomethionat)	cancer	2439-01-2	20-Aug-99
Oxythioquinox (Chinomethionat)	developmental	2439-01-2	06-Nov-98
Paclitaxel	developmental, female, male	33069-62-4	26-Aug-97
Palygorskite fibers (> 5mm in length)	cancer	12174-11-7	28-Dec-99
Panfuran S	cancer	794-93-4	01-Jan-88
Paramethadione	developmental	115-67-3	01-Jul-90
Penicillamine	developmental	52-67-5	01-Jan-91
Pentachlorophenol	cancer	87-86-5	01-Jan-90
Pentobarbital sodium	developmental	57-33-0	01-Jul-90
Pentostatin	developmental	53910-25-1	01-Sep-96
Phenacemide	developmental	63-98-9	01-Jul-90
Phenacetin	cancer	62-44-2	01-Oct-89
Phenazopyridine	cancer	94-78-0	01-Jan-88
Phenazopyridine hydrochloride	cancer	136-40-3	01-Jan-88
Phenesterin	cancer	3546-10-9	01-Jul-89
Phenobarbital	cancer	50-06-6	01-Jan-90
Phenolphthalein	cancer	77-09-8	15-May-98
Phenoxybenzamine	cancer	59-96-1	01-Apr-88
Phenoxybenzamine hydrochloride	cancer	63-92-3	01-Apr-88
Phenprocoumon	developmental	435-97-2	01-Oct-92
o-Phenylenediamine and its salts	cancer	95-54-5	15-May-98
o-Phenylenediamine			
o-Phenylenediamine dihydrochloride			
Phenyl glycidyl ether	cancer	122-60-1	01-Oct-90
Phenyl glycidyl ether	male	122-60-1	07-Aug-09
Phenylhydrazine and its salts	cancer	---	01-Jul-92
Phenylhydrazine			
Phenylhydrazine hydrochloride			
o-Phenylphenate, sodium	cancer	132-27-4	01-Jan-90
o-Phenylphenol	cancer	90-43-7	04-Aug-00
Phenylphosphine	developmental	638-21-1	07-Aug-09
PhiP(2-Amino-1-methyl-6-phenylimidazol[4,5-b]pyridine)	cancer	105650-23-5	01-Oct-94
Pimozide	developmental, female	2062-78-4	20-Aug-99
Pipobroman	developmental	54-91-1	01-Jul-90
Pirimicarb	cancer	23103-98-2	01-Jul-08
Plicamycin	developmental	18378-89-7	01-Apr-90
Polybrominated biphenyls	cancer	---	01-Jan-88
Polybrominated biphenyls	developmental	---	01-Oct-94
Polychlorinated biphenyls	cancer	---	01-Oct-89
Polychlorinated biphenyls	developmental	---	01-Jan-91
Polychlorinated biphenyls (containing 60 or more percent percent chlorine by molecular weight)	cancer	---	01-Jan-88
Polychlorinated dibenzo-p-dioxins	cancer	---	01-Oct-92
Polychlorinated dibenzofurans	cancer	---	01-Oct-92
Polygeenan	cancer	53973-98-1	01-Jan-88
Ponceau MX	cancer	3761-53-3	01-Apr-88
Ponceau 3R	cancer	3564-09-8	01-Apr-88
Potassium bromate	cancer	7758-01-2	01-Jan-90

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Potassium dimethyldithiocarbamate	developmental	128-03-0	30-Mar-99
Pravastatin sodium	developmental	81131-70-6	03-Mar-00
Prednisolone sodium phosphate	developmental	125-02-0	20-Aug-99
Primidone	cancer	125-33-7	20-Aug-99
Procarbazine	cancer	671-16-9	01-Jan-88
Procarbazine hydrochloride	cancer	366-70-1	01-Jan-88
Procarbazine hydrochloride	developmental	366-70-1	01-Jul-90
Procymidone	cancer	32809-16-8	01-Oct-94
Progesterone	cancer	57-83-0	01-Jan-88
Pronamide	cancer	23950-58-5	01-May-96
Propachlor	cancer	1918-16-7	27-Feb-01
1,3-Propane sultone	cancer	1120-71-4	01-Jan-88
Propargite	cancer	2312-35-8	01-Oct-94
Propargite	developmental	2312-35-8	15-Jun-99
beta-Propiolactone	cancer	57-57-8	01-Jan-88
Propoxur	cancer	114-26-1	11-Aug-06
Propylene glycol mono-t-butyl ether	cancer	57018-52-7	11-Jun-04
Propylene oxide	cancer	75-56-9	01-Oct-88
Propylthiouracil	cancer	51-52-5	01-Jan-88
Propylthiouracil	developmental	51-52-5	01-Jul-90
Pymetrozine	cancer	123312-89-0	22-Mar-11
Pyridine	cancer	110-86-1	17-May-02
Pyrimethamine	developmental	58-14-0	29-Jan-99
Quazepam	developmental	36735-22-5	26-Aug-97
Quinoline and its strong acid salts	cancer	---	24-Oct-97
Quizalofop-ethyl	male	76578-14-8	24-Dec-99
Radionuclides	cancer	---	01-Jul-89
Reserpine	cancer	50-55-5	01-Oct-89
Residual (heavy) fuel oils	cancer	---	01-Oct-90
Resmethrin	cancer	10453-86-8	01-Jul-08
Resmethrin	developmental	10453-86-8	06-Nov-98
Retinol/retinyl esters, when in daily dosages in excess of 10,000 IU, or 3,000 retinol equivalents. (NOTE: Retinol/retinyl esters are required and essential for maintenance of normal reproductive function. The recommended daily level during pregnancy is 8,000 IU.)	developmental	---	01-Jul-89
Ribavirin	developmental	36791-04-5	01-Apr-90
Ribavirin	male	36791-04-5	27-Feb-01
Riddelliine	cancer	23246-96-0	03-Dec-04
Rifampin	developmental, female	13292-46-1	27-Feb-01
Safrole	cancer	94-59-7	01-Jan-88
Salted fish, Chinese-style	cancer	---	29-Apr-11
Secobarbital sodium	developmental	309-43-3	01-Oct-92
Selenium sulfide	cancer	7446-34-6	01-Oct-89
Sermorelin acetate	developmental	---	20-Aug-99
Shale-oils	cancer	68308-34-9	01-Apr-90
Silica, crystalline (airborne particles of respirable size)	cancer	---	01-Oct-88
Sodium dimethyldithiocarbamate	developmental	128-04-1	30-Mar-99
Sodium fluoroacetate	male	62-74-8	06-Nov-98
Soots, tars, and mineral oils (untreated and mildly treated oils and used engine oils)	cancer	---	27-Feb-87
Spirodiclofen	cancer	148477-71-8	08-Oct-10
Spironolactone	cancer	52-01-7	01-May-97
Stanozolol	cancer	10418-03-8	01-May-97
Sterigmatocystin	cancer	10048-13-2	01-Apr-88
Streptomycin sulfate	developmental	3810-74-0	01-Jan-91
Streptozocin (streptozotocin)	developmental, female, male	18883-66-4	20-Aug-99
Streptozotocin (streptozocin)	cancer	18883-66-4	01-Jan-88
Strong inorganic acid mists containing sulfuric acid	cancer	---	14-Mar-03
Styrene oxide	cancer	96-09-3	01-Oct-88

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

Sulfallate	cancer	95-06-7	01-Jan-88
Sulfasalazine (salicylazosulfapyridine)	cancer	599-79-1	15-May-98
Sulfasalazine (salicylazosulfapyridine)	male	599-79-1	29-Jan-99
Sulfur dioxide	developmental	7446-09-5	29-Jul-11
Sulindac	developmental, female	38194-50-2	29-Jan-99
Talc containing asbestiform fibers	cancer	---	01-Apr-90
Tamoxifen and its salts	cancer	10540-29-1	01-Sep-96
Tamoxifen citrate	developmental	54965-24-1	01-Jul-90
Temazepam	developmental	846-50-4	01-Apr-90
Teniposide	developmental	29767-20-2	01-Sep-96
Terbacil	developmental	5902-51-2	18-May-99
Terrazole	cancer	2593-15-9	01-Oct-94
Testosterone and its esters	cancer	58-22-0	01-Apr-88
Testosterone cypionate	developmental	58-20-8	01-Oct-91
Testosterone enanthate	developmental	315-37-7	01-Apr-90
3,3',4,4'-Tetrachloroazobenzene	cancer	14047-09-7	24-Jul-12
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	cancer	1746-01-6	01-Jan-88
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	developmental	1746-01-6	01-Apr-91
1,1,2,2-Tetrachloroethane	cancer	79-34-5	01-Jul-90
Tetrachloroethylene (Perchloroethylene)	cancer	127-18-4	01-Apr-88
p-a,a,a-Tetrachlorotoluene	cancer	5216-25-1	01-Jan-90
Tetracycline (internal use)	developmental	60-54-8	01-Oct-91
Tetracyclines (internal use)	developmental	---	01-Oct-92
Tetracycline hydrochloride (internal use)	developmental	64-75-5	01-Jan-91
Tetrafluoroethylene	cancer	116-14-3	01-May-97
Tetranitromethane	cancer	509-14-8	01-Jul-90
Thalidomide	developmental	50-35-1	01-Jul-87
Thioacetamide	cancer	62-55-5	01-Jan-88
4,4'-Thiodianiline	cancer	139-65-1	01-Apr-88
Thiodicarb	cancer	59669-26-0	20-Aug-99
Thioguanine	developmental	154-42-7	01-Jul-90
Thiophanate methyl	female, male	23564-05-8	18-May-99
Thiouracil	cancer	141-90-2	11-Jun-04
Thiourea	cancer	62-56-6	01-Jan-88
Thorium dioxide	cancer	1314-20-1	27-Feb-87
Titanium dioxide (airborne, unbound particles of respirable size)	cancer	---	02-Sep-11
Tobacco, oral use of smokeless products	cancer	---	01-Apr-88
Tobacco smoke	cancer	---	01-Apr-88
Tobacco smoke (primary)	developmental, female, male	---	01-Apr-88
Tobramycin sulfate	developmental	49842-07-1	01-Jul-90
Toluene	developmental	108-88-3	01-Jan-91
Toluene	female	108-88-3	07-Aug-09
Toluene diisocyanate	cancer	26471-62-5	01-Oct-89
o-Toluidine	cancer	95-53-4	01-Jan-88
o-Toluidine hydrochloride	cancer	636-21-5	01-Jan-88
Toxaphene (Polychlorinated camphenes)	cancer	8001-35-2	01-Jan-88
Toxins derived from <i>Fusarium moniliforme</i> ( <i>Fusarium verticillioides</i> )	cancer	---	07-Aug-09
Treosulfan	cancer	299-75-2	27-Feb-87
Triadimefon	developmental, female, male	43121-43-3	30-Mar-99
Triazolam	developmental	28911-01-5	01-Apr-90
S,S,S-Tributyl phosphorotrithioate (Tribufos, DEF)	cancer	78-48-8	25-Feb-11
Tributyltin methacrylate	developmental	2155-70-6	01-Dec-99
Trichlormethine (Trimustine hydrochloride)	cancer	817-09-4	01-Jan-92
Trichloroethylene	cancer	79-01-6	01-Apr-88
2,4,6-Trichlorophenol	cancer	88-06-2	01-Jan-88
1,2,3-Trichloropropane	cancer	96-18-4	01-Oct-92
Trifentine hydrochloride	developmental	38260-01-4	27-Feb-01
Triforine	developmental	26644-46-2	18-Jun-99

## APPENDIX 8-A: REPRODUCTIVE TOXINS LIST

1,3,5-Triglycidyl-s-triazinetriene	male	2451-62-9	07-Aug-09
Trilostane	developmental	13647-35-3	01-Apr-90
Trimethadione	developmental	127-48-0	01-Jan-91
2,4,5-Trimethylaniline and its strong acid salts	cancer	---	24-Oct-97
Trimethyl phosphate	cancer	512-56-1	01-May-96
Trimetrexate glucuronate	developmental	82952-64-5	26-Aug-97
2,4,6-Trinitrotoluene (TNT)	cancer	118-96-7	19-Dec-08
Triphenyltin hydroxide	cancer	76-87-9	01-Jul-92
Triphenyltin hydroxide	developmental	76-87-9	18-Mar-02
Tris(1-aziridinyl)phosphine sulfide (Thiotepa)	cancer	52-24-4	01-Jan-88
Tris(2-chloroethyl) phosphate	cancer	115-96-8	01-Apr-92
Tris(2,3-dibromopropyl)phosphate	cancer	126-72-7	01-Jan-88
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	cancer	13674-87-8	28-Oct-11
Trp-P-1 (Tryptophan-P-1)	cancer	62450-06-0	01-Apr-88
Trp-P-2 (Tryptophan-P-2)	cancer	62450-07-1	01-Apr-88
Trypan blue (commercial grade)	cancer	72-57-1	01-Oct-89
Unleaded gasoline (wholly vaporized)	cancer	---	01-Apr-88
Uracil mustard	cancer	66-75-1	01-Apr-88
Uracil mustard	developmental, female, male	66-75-1	01-Jan-92
Urethane (Ethyl carbamate)	cancer	51-79-6	01-Jan-88
Urethane (Ethyl carbamate)	developmental	51-79-6	01-Oct-94
Urofollitropin	developmental	97048-13-0	01-Apr-90
Valproate (Valproic acid)	developmental	99-66-1	01-Jul-87
Vanadium pentoxide (orthorhombic crystalline form)	cancer	1314-62-1	11-Feb-05
Vinblastine sulfate	developmental	143-67-9	01-Jul-90
Vinclozolin	cancer	50471-44-8	20-Aug-99
Vinclozolin	developmental	50471-44-8	15-May-98
Vincristine sulfate	developmental	2068-78-2	01-Jul-90
Vinyl bromide	cancer	593-60-2	01-Oct-88
Vinyl chloride	cancer	75-01-4	27-Feb-87
4-Vinylcyclohexene	cancer	100-40-3	01-May-96
4-Vinylcyclohexene	female, male	100-40--3	07-Aug-09
4-Vinyl-1-cyclohexene diepoxide (Vinyl cyclohexenedioxide)	cancer	106-87-6	01-Jul-90
Vinyl cyclohexene dioxide (4-Vinyl-1-cyclohexene diepoxide)	female, male	106-87-6	01-Aug-08
Vinyl fluoride	cancer	75-02-5	01-May-97
Vinyl trichloride (1,1,2-Trichloroethane)	cancer	79-00-5	01-Oct-90
Warfarin	developmental	81-81-2	01-Jul-87
Wood dust	cancer	---	18-Dec-09
2,6-Xylidine (2,6-Dimethylaniline)	cancer	87-62-7	01-Jan-91
Zalcitabine	cancer	7481-89-2	07-Aug-09
Zidovudine (AZT)	cancer	30516-87-1	18-Dec-09
Zileuton	cancer, developmental, female	111406-87-2	22-Dec-00

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