



## Standard Operating Procedure

### PARTICULARLY HAZARDOUS SUBSTANCES (PHS)

#### General:

The Occupational Safety and Health Administration (OSHA) Laboratory Standard requires that special handling procedures be employed for certain chemicals identified as “particularly hazardous substances.” Particularly hazardous substances include chemicals that are “select carcinogens, reproductive toxins, and chemicals that have a high degree of acute toxicity.” In addition, many chemicals used (including novel chemicals that are synthesized) in research laboratories have not been tested explicitly for carcinogenic or toxic properties and should therefore be handled as “particularly hazardous substances” since their hazards are unknown.

It should be noted that Chemical and Chemistry Biology will only enforce the OSHA enforceable PHSs. The rest of the material is for information only.

#### ***This SOP identifies Procedures and PPE needs for use of PARTICULARLY HAZARDOUS SUBSTANCES:***

##### A. Definitions:

###### 1. Carcinogen:

A substance that either causes cancer in humans or, because it causes cancer in animals, is considered capable of causing cancer in humans. OSHA defines those substances that are known to pose the greatest carcinogenic hazards as “select carcinogens” (see Appendix B). These materials include substances that:

- OSHA regulates as a carcinogen; or
- The National Toxicology Program (NTP) lists as “known to be a carcinogen” or “reasonably anticipated to be a carcinogen” in their Annual Report on Carcinogens; or
- The International Agency for Research on Cancer (IARC) lists under Group 1 (“carcinogenic to humans”), Group 2A (“probably carcinogenic to humans”), or Group 2B (“possibly carcinogenic to humans”).

###### 2. Reproductive Toxin

- A substance that causes chromosomal damage or genetic alterations (mutagens) or substances that cause lethal or physical malformations or defects in a developing fetus or embryo (teratogens).

### 3. Chemicals with a High Degree of Acute Toxicity

- Acute toxicity is the ability of a chemical to cause a harmful effect rapidly after a single short term exposure. Acutely toxic chemicals can cause local toxic effects, systemic effects, or both. OSHA’s “chemicals with a high degree of acute toxicity” includes both “highly toxic” and “toxic” chemicals that “may be fatal or cause damage to target organs as a result of a single exposure or exposures of short duration” (i.e., acutely toxic effects) as defined in [29 CFR 1910.1200, Appendix A](#) (Mandatory). Combining the definitions from 29 CFR 1910.1200, Appendix A, yields the following table;

Note: The lethal dose (LD50) is the dose (in mg/kg of body weight) and the lethal concentration (LC50) is the concentration in air (in ppm) at which 50% of the test subjects expire.

- In general, “chemicals with a high degree of acute toxicity” include 1) “highly toxic” chemicals that have an Oral LD50 of ≤50 mg/kg (rats), Skin Contact LD50 of ≤200 mg/kg (rabbits), Inhalation LC50 of ≤200 ppm (rats for 1 hour) and 2) “toxic” chemicals with acutely toxic effects or those that have an Inhalation LC50 of ≤2000 ppm (rats for 1 hour).
- Comparing the former OSHA definition to the Globally Harmonized System (GHS) of chemical classification and labeling, the GHS acute toxicity ratings of 1 and 2 account for the old OSHA “highly toxic” categories and the “toxic” inhalation category. Therefore, the GHS acute toxicity ratings of 1 and 2 can be used as to determine the laboratory chemicals that are considered “chemicals with a high degree of acute toxicity” and as such, “particularly hazardous substances.”
- Please refer to the attached Appendix

## B. Eye Protection

1. Please review individual Safety Data Sheets (SDS) for appropriate eye protection
2. If using flammable materials that does not Ultra-Violet, or Lasers, then Chemical Safety Goggles should be used. Prescription goggles are approved.
  - i. Prescription goggles cannot be paid for by unrestricted indexes
  - ii. If Prescription goggles are paid for by UNM, then these must be returned to the department and cannot leave the campus
  - iii. Individual can pay for or compensate the UNM for the previously purchased goggles.

Task	Eyewear Type	Location
<i>fill in task information.</i>	<i>Examples follow: Fill in eyewear type(s). (example included)</i>	<i>Fill in location where PPE is available.</i>
<i>Use of PARTICULARLY HAZARDOUS SUBSTANCES</i>	<i>Safety goggles</i>	<i>Laboratory</i>

### C. Gloves

1. Nitrile gloves are approved for most acids
  - i. Casual handling
  - ii. Delineated by SDS
2. Refer to SDS if there is another type of glove
  - i. Delineated by SDS
  - ii. For use when full procedure is being performed
3. Hydrofluoric Acid required the use of nitrile and Silver Shield

Task	Glove Type	Location
<i>fill in task information.</i>	<i>Examples follow: Fill in glove type(s). (example included)</i>	<i>Fill in location where PPE is available.</i>
<i>Use of PARTICULARLY HAZARDOUS SUBSTANCES</i>	<i>Safety goggles</i>	<i>Laboratory</i>

### D. Footwear

1. No sandals or open-toed shoes are to be worn by employees entering lab facilities. Shoes should have non skid soles and should have a reasonable heel height.
2. Safety shoes must be worn if there is potential for injury from heavy objects (e.g., handling drums, cylinders). The PI is responsible for procuring safety shoes if they are determined necessary.
3. Safety shoes must meet the requirements of ANSI Z41 (latest issue).

### E. Clothing

1. Laboratory coats or other suitable work apparel shall be worn by laboratory employees whenever there is potential for chemical exposure in the work area.
2. If large amounts of highly flammable materials Flame Resistant (FR) lab coats are recommended.
3. Clothing must be cleaned regularly. If a spill occurs on the clothing, it must be decontaminated before reuse. Lab clothing should not be washed with other household clothing.
4. Disposable clothing should be considered when working with highly toxic materials, carcinogens, mutagens, or teratogens. The LS/PI is responsible for determining the need for disposable clothing.
5. Before each use, clothing is to be inspected for damage, deterioration, contamination. If deficiencies are noted, the clothing should be cleaned, repaired, or replaced before use.
6. Shorts will not be worn in the laboratory.

### E. Hearing Protection

1. Hearing protection ( earmuffs or plugs) is required whenever employees are exposed to noise levels of 85 decibels or greater as an 8-hour time weighted average (TW A). Industrial Hygiene workers exposed to noise levels in excess of 90 dBA will wear hearing protection regardless of the duration.
2. Hearing protection is to be inspected before each use , for tears and contamination. If deficiencies are noted, the hearing protector should be cleaned, repaired, or replaced before use.
3. Annual audiogram and other requirements of the SRS Hearing Conservation Program apply if full-shift noise exposures are 8 5 decibels or greater. Please contact SRS for this program.

## **F. Respirators**

1. Respiratory protection is not required for any routine work conducted in the laboratory.
2. Staff that are responsible for assessing chemical spill sites must ensure that they and other responders have respirators capable of controlling the particular chemical species and concentration. Emergency conditions (i.e., airborne contaminants in excess of established Immediately Dangerous to Life and Health concentrations) are to be handled by emergency response personnel.
3. All employees issued respirators for any reason must follow all the requirements set forth in the OSHA respirator protection program as EHS does not have one
4. Specific information concerning respirator capabilities, filter selection, IDLH concentrations, etc., is contained in the OSHA respiratory protection standard.

## **G. Storage**

1. These materials must be stored in areas designated for “particularly hazardous substances.”
2. Storage areas should be clearly marked with the appropriate hazard warning signs.
3. All containers of these materials (even if the material is in very small quantities such as 0.1%) must be clearly labeled with the chemical name or mixture components and should be labeled with the appropriate hazard warning information.
4. Chemical storage areas should be secure to avoid spills or broken containers.
5. Storage areas or laboratory rooms must be locked when laboratory personnel are away or not present.

## **H. Handling**

1. Designated areas (e.g., fume hoods, glove boxes, lab benches, outside rooms) for material use must be established and the areas identified by signs or postings.
2. Containment devices such as fume hoods (if necessary) and personal protective equipment (e.g., gloves, lab coat, and eye protection) must be used when handling these hazardous substances.
3. Procedures for the safe use of the material and waste removal must be established prior to use.
4. Decontamination procedures must be developed in advance and strictly followed

5. Only laboratory personnel trained to work with these substances can perform the work, and always within the designated area. Prior approval is required by the Principal Investigator, Lab Manager or Lab Supervisor
6. Only the minimum quantity of the material should be used

### **I. Spill**

1. Chemical spill kit must be located and stocked in each lab
2. Spill clean up procedure should follow EHS procedures.

### **J. Training:**

1. Employees using PPE must be trained in proper selection, care and use. The PI is responsible for providing training for protective eyewear, footwear, gloves and clothing.
2. Users of respirators other than filtering face piece models must be trained annually by the SRS.
3. Users of hearing protection who are exposed to full-shift average noise levels over 85 dBA must be trained annually by the Department of Environmental Safety.
4. The PI is responsible for ensuring that respiratory protection and hearing conservation training are provided when employees have a demonstrated need for entry into these programs.

## APPENDIX

### LAB STANDARD LIST FOR PARTICULARLY HAZARDOUS SUBSTANCES

This list contains examples of chemicals that may be used. The list is not all-inclusive.

This appendix lists examples of Particularly Hazardous Substances (PHS) which are a special subset of OSHA Hazardous Chemicals. PHS include chemicals that are known or suspect carcinogens, reproductive toxins, and/or highly toxic materials. Before working with any PHS, ask your supervisor if additional protective work practices are needed. You may also contact the principal investigator, lab manager, lab safety coordinator, or EHS for assistance.

Further information on including suspect carcinogens in the definition of PHS and guidelines for protection are found in Section XXX of CCB's Chemical Hygiene Plan that university personnel can use as a guideline for complying with OSHA's Standard for Occupational Exposures to Hazardous Chemicals in Laboratories. Additional information is found the National Research Council's publication *Prudent Practices in the Laboratory* in the chapter entitled 'Working with Chemicals' that is available online from the National Academies Press [Prudent Practices Working with Chemicals](#).

Of interest are the ones classified under the OSHA and EPA listed in the table below. All chemicals should be reviewed, but are not necessarily within the regulation of the OSHA standard for enforcement.

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#### Abbreviations Used in List Headings

- CARC NTP** - **National Toxicology Program listed carcinogen** - [National Toxicology Program](#)  
K = known carcinogen S  
= suspect carcinogen
- CARC IARC** - **International Association for Research on Cancer listed carcinogen** - [IARC](#)  
1 = known human carcinogen 2A =  
probable human carcinogen 2B =  
possible human carcinogen
- CARC OSHA** - **OSHA regulated carcinogen** - [OSHA-regulated carcinogens](#)  
X = regulated carcinogen
- REPRO SHEP** - **Included in *Catalog of Teratogenic Agents*, T.H. Shepard, 6<sup>th</sup> Edition, Johns Hopkins Press, 1989**  
X = listed teratogen

**REPRO CALIF** - Listed by the State of California 'Safe Drinking Water Act, 1986'

[http://www.oehha.ca.gov/prop65/prop65\\_list/Newlist.html](http://www.oehha.ca.gov/prop65/prop65_list/Newlist.html)

F = female reproductive hazard

M = male reproductive hazard

**HTX** - Highly toxic, included in EPA's list 'Acutely Toxic Hazardous Waste', P-listed waste [40 CFR 261.33](#), or Included in OSHA's list of highly hazardous chemicals with a threshold  $\leq 200$  pounds [29 CFR 1910.119](#).

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**Lab Standard List for Particularly Hazardous Substances**

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole; 2	3570-75-0		2B				
(Aminomethyl)-3-isoxazolol; 5	2763-96-4						X
(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone; 4	64091-91-4	S	2B				
(N-nitrosomethylamino)propionitrile; 3	60153-49-3		2B				
A-C(2-amino-9H-pyrido[2,3-b]indole	26148-68-5		2B				
AF-2[2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide]	3688-53-7		2B				
ANTU, see naphthylthiourea							
Acetaldehyde	75-07-0	S	2B				
Acetamide	60-35-5		2B				
Acetamide; N-(aminothioxomethyl)-	591-08-2						X
Acetohydroxamic acid	546-88-3					X	
Acetone cyanohydrin	75-86-5						X
Acetylaminofluorene; 2	53-96-3	S		X			
Acetylsalicylic acid (Aspirin)	50-78-2					XF	
Acrolein	107-02-8						X
Acrylamide	79-06-1	S	2A				
Acrylonitrile	107-13-1	S	2A				
Actinomycin D	50-76-0					X	
Adriamycin	23214-92-8	S	2A				
Aflatoxins	1402-68-2	K	1				
Aldicarb	116-06-3						X
Aldicarb sulfone	1646-88-4						X
Aldrin	309-00-2						X
Allyl alcohol	107-18-6						X
Alprazolam	28981-97-7					X	
Aluminum phosphide	20859-73-8						X
Amino-1,2,4-triazole; 3; see amitrole							
Amino-2-methyl-anthraquinone; 1	82-28-0	S					
Amino-5-(5-nitrofuryl)-1,3,4 thiadazole; 2	712-68-5		2B				
Aminoanthraquinone; 2	117-79-3	S					



SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Aminoazobenzene; p-	60-09-3		2B				
Aminoazotoluene; o-	97-56-3	S	2B				
Aminobiphenyl; 4	92-67-1	K	1	X			
Aminoglutethimide	125-84-8					X	
Aminoglycosides	NA					X	
Aminopterin	54-62-6				X	XF	
Aminopyridine; 4	504-24-5						X
Amitrole	61-82-5	S	2B				
Ammonium picrate	131-74-8						X
Ammonium vanadate	7803-55-6						X
Androgenic hormones	NA				X		
Angiotensin converting enzyme inhibitors	NA					X	
Anisidene hydrochloride; o-	134-29-2	S					
Anisidene; o-	90-4-0		2B				
Anisindione	117-37-3					X	
Antimony trioxide	1309-64-4		2B				
Aramite	140-57-8		2B				
Argentate(1-); bis(cyano-C-); potassium	506-61-6						X
Aroclor 1254	11097-69-1	S					
Aroclor 1260	11096-82-5	S					
Arsenic & compounds	NA		1				
Arsenic acid H3AsO4	7778-39-4						X
Arsenic pentoxide	1303-28-2	K					X
Arsenic trioxide	1327-53-3	K					X
Arsenic, elemental/inorganic cmpds; except arsine	NA	K					
Arsonous dichloride; phenyl-	696-28-6						X
Asbestos	1332-21-4	K	1				
Asbestos anthophyllite	17068-78-9	K					
Asbestos, amosite	12172-73-5	K					

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Asbestos, chrysotile	12001-29-5	K					
Asbestos, crocidolite	12001-28-4	K					
Atrazine	1912-24-9		2B				
Azacitidine	320-67-2		2A				
Azaserine	115-2-6		2B				
Azathioprine	4465-86-6	K	1				
Aziridine	151-56-4			X			X
BCNU; see bis chloroethyl nitrosourea							
Barbiturates	NA					X	
Barium cyanide	542-62-1						X
Benomyl	17804-35-2					XM	
Benzanthracene	56-55-3	S	2A				
Benzenamine; 4-chloro-, see chloroaniline, p-							
Benzene	71-43-2	K	1		X		
Benzene; (chloromethyl)-; see benzyl chloride							
Benzenethiol, see phenyl mercaptan							
Benzidine	92-87-6	K	1	X			
Benzo(b)fluoranthene	205-99-2	S	2B				
Benzo(j)fluoranthene	205-82-3	S	2B				
Benzo(k)fluoranthene	207-08-9	S	2B				
Benzodiazepines	NA					X	
Benzopyran-2-one; 4-hydroxy-3-(3-oxo-1-...	181-81-2						X
Benzopyrene	50-32-8	S	2A				
Benzotrichloride	98-07-7	S					
Benzphetamine hydrochloride	5411-22-3					X	
Benzyl chloride	100-44-7						X
Benzyl violet 4B	1694-09-3		2B				
Beryllium	7440-41-7	S					
Beryllium and Beryllium Cmpds	NA		1				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Beryllium chloride	7787-47-5	S					
Beryllium fluoride	7787-49-7	S					
Beryllium hydroxide	13327-32-7	S					
Beryllium oxide	1304-56-9	S					
Beryllium phosphate	13598-15-7	S					
Beryllium powder	7440-41-7						X
Beryllium sulphate	13510-49-1	S					
Beryllium sulphate tetrahydrate	7787-56-6	S					
Beryllium zinc silicate	39413-47-3	S					
Beryllium-aluminum alloy	12770-50-2	S					
Bis (chloromethyl) ether	542-88-1	K	1	X			X
Bis chloroethyl nitrosourea	154-93-8	S	2A			X	
Bleomycins	11056-06-7		2B				
Bromoacetone	598-31-2						X
Bromodichloromethane	75-27-4	S	2B				
Bromoxynil	1689-84-5					X	
Brucine	357-57-3						X
Busulfan; see 1,4-butanediol dimethylsulfonate							
Butabarbital sodium	143-81-7					X	
Butadiene; 1,3	106-99-0	S	2A				
Butadine; see 1,3 butadine							
Butanediol dimethanesulfonate; 1,4	55-98-1	K	1		X	X	
Butyrolactone; beta	96-48-0		2B				
CCNU	13010-47-4	S	2A			X	
CCNU; methyl	13909-09-6	K	1				
Cadmium	7440-43-9	S	1				
Cadmium chloride	10108-64-2	S					
Cadmium compounds	NA		1				
Cadmium oxide	1306-19-0	S					

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Cadmium sulphate	10124-36-4	S					
Cadmium sulphide	1306-23-6	S					
Calcium arsenate	7778-44-1	K			X		
Calcium arsenite	15194-98-6	K					
Calcium arsenite	27152-57-4	K					
Calcium arsenite	52740-16-6	K					
Calcium chromate	13765-19-0	K					
Calcium cyanide	592-01-8						X
Captafol	2425-06-1		2A				
Carbofuran	1563-66-2						X
Carbon disulfide	75-15-0					XFM	X
Carbon monoxide	630-08-0					X	
Carbon tetrachloride	56-23-5	S	2B				
Carbonic dichloride, see phosgene							
Carbonyl chloride; see phosgene							
Carboplatin	41575-94-4					X	
Carbosulfan	55285-14-8						X
Carmustine; see bis chloroethyl nitrosourea							
Carrageenan, degraded	9000-07-1		2B				
Ceramic fibers, respirable size	NA	S					
Chenodiol	474-25-9					X	
Chlorambucil	305-03-3	K	1			X	
Chloramphenicol	56-75-7		2A				
Chlorcyclizine hydrochloride	1620-21-9					X	
Chlordane	57-74-9		2B				
Chlordiazepoxide	58-25-3					X	
Chlordiazepoxide hydrochloride	488-41-5					X	
Chlorendic acid	115-28-6	S	2B				
Chlorinated camphene	8001-35-2	S	2B				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Chlorinated paraffins; certain	108171-26-2	S	2B				
Chloro-2,3-epoxypropane; 1; see epichlorohydrin							
Chloro-2-methylpropene; 3	563-47-3	S					
Chloro-o-phenylenediamine; 4	95-83-0	S	2B				
Chloro-o-toluidine; p-; & its salts	95-69-2		2A				
Chloroacetaldehyde	107-20-0						X
Chloroaniline; p-	106-47-8		2B				X
Chlorobiphenyls	NA				X		
Chlorodiphenyl (54% chlorine); see aroclor 1254							
Chloroethylene; see vinyl chloride							
Chloroform	67-66-3	S	2B				
Chloromethyl methyl ether	107-30-2	K	1	X			
Chlorophenols	NA		2B				
Chlorophenoxy herbicides	NA		2B				
Chloropropionitrile; 3	542-76-7						X
Chlorozotocin	54749-90-5		2A				
Chromium (VI) compounds, insoluble NOC	NA		1				
Chromium (VI) compounds, water soluble NOC	NA		1				
Chromium III	7440-47-3	K	1				
Chromium trioxide	1333-82-0	K					
Cis-retinoic acid; 13	4759-48-2				X		
Cisplatin	15663-27-1	S	2A				
Citrus Red #2	63585-53-8		2B				
Clomiphene citrate	50-41-9					X	
Clorazepate dipotassium	57109-90-7					X	
Coal tar	8007-45-2		1				
Coal tar pitch	65996-93-2		1				
Cobalt & compounds	7440-48-4		2B				
Colchicine	64-86-8					XM	

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Copper cyanide	544-92-3						X
Coumarin anticoagulants	NA				X		
Creosotes	NA		2A				
Cresidine; p-	120-71-8	S	2B				
Cristobalite, see silica-chrySTALLINE							
Cumenyl methylcarbamate; m-	64-00-6						X
Cupferran	135-20-6	S					
Cyanazine	21725-46-2					X	
Cyanides (soluble cyanide salts); NOC	NA						X
Cyanogen	460-19-5						X
Cyanogen chloride	506-77-4						X
Cycasin	14901-08-7		2B				
Cycloheximide	66-81-9					X	
Cyclohexyl-4;6-dinitrophenol; 2	131-89-5						X
Cyclophosphamide; anhydrous	50-18-0	K	1		X	XFM	
Cyclophosphamide; hydrated	6055-19-2					XFM	
Cyclosporin	79217-60-0		1				
Cyhexatin	13121-70-5					X	
Cytarabine	147-94-4					X	
Cytomegalovirus	NA				X		
DDT (Dichlorodiphenyl trichloroethane)	50-29-3	S	2B				
Dacabazine	4342-03-4	S	2B				
Danazol	17230-88-5					X	
Dantron	117-10-2		2B				
Daunomycin	20830-81-3		2B				
Daunorubicin hydrochloride	23541-50-6					X	
Demeclocycline hydrochloride; internal use	64-73-3					X	
Di-sec octyl phthalate	117-81-7	S	2B				
Diacetylbenzidine; N,N'-	613-35-4		2B				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Diaminoanisole sulfate; 2 4	39156-41-7	S					
Diaminoanisole; 2 4	615-05-4		2B				
Diaminodiphenyl ether; 4 4'; see 4,4'oxydianiline							
Diaminotoluene; 2 4	95-80-7	S	2B				
Dianisidine; o; see 3,3' dimethoxybenzidine							
Diatomaceous earth; see silica-amorphous							
Diazepam	439-14-5					X	
Dibenz(a,h)acridine	226-36-8	S	2B				
Dibenz(a,h)anthracene	53-70-3	S					
Dibenz(a,i)acridine	224-42-0	S	2B				
Dibenzanthracene	53-70-3		2A				
Dibenzo(a,e)pyrene	192-65-4	S	2B				
Dibenzo(a,h)pyrene	189-64-0	S	2B				
Dibenzo(a,i)pyrene	189-55-9	S	2B				
Dibenzo(a,l)pyrene	191-30-0	S	2B				
Dibenzo(c,g)carbazole	194-59-2	S					
Dibenzo[c,g]carbazole; 7H	194-59-2		2B				
Dibromo-3-chloropropane; 1, 2	96-12-8	S	2B			M	
Dibromoethane; 1, 2; see ethylene dibromide							
Dichloro-4,4'-diaminodiphenyl ether; 3, 3'	28434-86-8		2B				
Dichlorobenzene; p-	106-46-7	S	2B				
Dichlorobenzene; see dichlorobenzene; p-1, 4							
Dichlorobenzidine dihydrochloride; 3, 3'	612-83-9	S					
Dichlorobenzidine salts; 3, 3'	91-94-1			X			
Dichlorobenzidine; 3, 3'	91-94-1	S	2B	X			
Dichlorodiphenyltrichloroethane; see DDT							
Dichloroethylene; 1, 1; see vinylidene chloride							
Dichloromethane; see methylene chloride							
Dichloromethyl ether; see bis (chloromethyl) ether							

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Dichlorophenylarsine	696-28-6						X
Dichloropropene; 1, 3; technical grade	542-75-6	S	2B				
Dichlorvos	62-73-7		2B				
Dicumarol	66-76-2					X	
Dieldrin	60-57-1						X
Diepoxybutane	1464-53-5	S	2B				
Diethyl O-pyrazinyl phosphorothioate; o o	297-97-2						X
Diethyl sulfate	64-67-5	S	2A				
Diethyl-p-nitrophenyl phosphate	311-45-5						X
Diethylarsine	692-42-2						X
Diethylene dioxide; see dioxane							
Diethylhydrazine; 1, 2	1615-80-1		2B				
Diethylstilbestrol	56-53-1	K	1		X	X	
Diglycidyl resorcinol ether	101-90-6	S	2B				
Dihydrosafrole	94-58-6		2B				
Diisopropyl sulfate	2973-10-6		2B				
Dimethanonaphth [2,3-b]oxirene...	172-20-8						X
Dimethanonaphthalene; 1,2,3,4,10,10-...	465-73-6						X
Dimethoate	60-51-5						X
Dimethoxybenzidine dihydrochloride; 3, 3'	20325-40-0	S					
Dimethoxybenzidine; 3, 3'	119-90-4	S	2B				
Dimethyl sulphate	77-78-1	S	2A				
Dimethyl-4-heptanone; see diisobutyl ketone; 2, 6							
Dimethylaminoazo-benzene; 4	60-11-7	S		X			
Dimethylaminoazobenzene; p-	60-11-7		2B				
Dimethylaniline; 2, 6	87-62-7		2B				
Dimethylbenzidine; 3, 3'	119-93-7	S	2B				
Dimethylcarbamoyl chloride	79-44-7	S	2A				
Dimethylhydrazine; 1, 1	57-14-7	S	2B				



SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Dimethylhydrazine; 1, 2	540-73-8		2B				
Dimethylmercury	593-74-8				X		
Dimethylnitrosoamine; see N-Nitrosodimethylamine							
Dimethylphenethylamine; alpha, alpha	122-09-8						X
Dimethylvinyl chloride	513-37-1	S					
Dimetilan	644-64-4						X
Dinitro-o-cresol; & salts	534-52-1						X
Dinitrobenzene; meta	99-65-0					M	
Dinitrobenzene; ortho	528-29-0					M	
Dinitrobenzene; para	100-25-4					M	
Dinitrophenol; 2, 4	51-28-5						X
Dinocap	39300-45-3					X	
Dinoseb	88-85-7					XM	X
Dioxane	123-91-1	S					
Diphenylhydantoin; see phenytoin							
Diphenylmethane diisocyanate; see methylene bis...							
Direct Black #38	1937-37-7	S	2A				
Direct Blue #6	2602-46-2	S	2A				
Direct Brown #95	16071-86-6		2A				
Disodium hydrogen arsenate	10048-95-0	K					
Disperse blue 1	2475-45-8		2B				
Disulfoton	298-04-4						X
Dithiobiuret	541-53-7						X
Dithiolane-2-carboxaldehyde; 2, 4-dimethyl-...	26419-73-8						X
Doxycycline calcium; internal use	94088-85-4					X	
Doxycycline hyclate; internal use	24390-14-5					X	
Doxycycline monohydrate; internal use	17086-28-1					X	
Doxycycline; internal use	564-25-0					X	

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Endosulfan	115-29-7						X
Endothall	145-73-3						X
Endrin	72-20-8						X
Endrin; & metabolites	NA						X
Epichlorohydrin	106-89-8	S	2A				
Epinephrine	51-43-4						X
Epoxy-1-propanol; 2, 3; see Glycidol							
Epoxypropane; 1, 2; see Propylene oxide							
Ergotamine tartrate	379-79-3					X	
Erionite	66733-21-9	K	1				
Estrogens (not conjugated); estradiol-17 beta	50-28-2	S					
Estrogens (not conjugated); estrone	53-16-7	S					
Estrogens (not conjugated); ethinylestradiol	57-63-6	S				X	
Estrogens (not conjugated); mestranol	72-33-3	S				X	
Estrogens; conjugated	NA	K				X	
Ethanedinitrile	460-19-5						X
Ethoxyethanol; 2; (cellosolve)	110-80-5					XM	
Ethoxyethyl acetate; 2; (cellosolve acetate)	111-15-9					XM	
Ethyl acrylate	140-88-5	S	2B				
Ethyl cyanide; see propanenitrile							
Ethyl methanesulphonate	62-50-0	S	2B				
Ethyl-N-nitrosourea; N-; see nitroso-n-ethylur...							
Ethylene dibromide	106-93-4	S	2A				
Ethylene dichloride	107-06-2	S					
Ethylene glycol methyl acetate; see methyl cell...							
Ethylene glycol monoethyl ether; see 2-Ethoxyet...							
Ethylene glycol monomethyl ether; see 2-Methoxy...							
Ethylene oxide	75-21-8	S	1			F	
Ethylene thiourea	96-45-7	S	2B			X	

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Ethylenimine; see aziridine							
Etoposide	33419-42-0					X	
Etretinate	54350-48-0				X	X	
Famphur	52-85-7						X
Flourouracil	51-21-8					X	
Fluorine	7782-41-4						X
Fluoroacetamide	640-19-7						X
Fluorouracil; 5	51-21-8				X		
Fluoxymesterone	76-43-7					X	
Formaldehyde	50-00-0		2A				
Formetanate hydrochloride.	23422-53-9						X
Formparanate.	17702-57-7						X
Glass, fibrous or dust; see glasswool							
Glasswool; respirable size	NA	S					
Glu-P-1(2-amino-6-methyldipyrido[1,2-a:3',2'-d]...	67730-11-4		2B				
Glu-P-2(2-aminodipyrido[1,2-a:3',2'-d]imidazole	67730-10-3		2B				
Glycidaldehyde	765-34-4		2B				
Glycidol	556-52-5	S					
Glycol monoethyl ether; see 2-ethoxyethanol							
Griseofulvin	126-07-8		2B				
Gypsum; see calcium sulfate							
Halazepam	23092-17-3					X	
Heptachlor	76-44-8		2B				
Heptachlor & heptachlor epoxide	76-44-8						X
Hexachlorobenzene	118-74-1	S	2B			X	
Hexachlorocyclohexane	608-73-1	S					
Hexachlorocyclohexane; alpha	319-84-6	S					
Hexachlorocyclohexane; beta	319-85-7	S					
Hexachlorocyclohexane; gamma; see lindane							

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Hexachlorocyclohexanes	NA		2B				
Hexachloroethane	67-72-1	S					
Hexaethyl tetraphosphate	757-58-4						X
Hexamethyl phosphoramidate	680-31-9	S	2B			M	
Hydrazine	302-01-2	S	2B				
Hydrazine sulfate	100-93-2	S					
Hydrazinecarbothioamide	79-19-6						X
Hydrazobenzene	122-66-7	S					
Hydrogen cyanide	74-90-8						X
Hydrogen phosphide; see phosphine							
Hydroxyanisole; butylated	25013-16-5	S	2B				
IQ(2-amino-3-methylimidazo[4,5-f]quinoline)	76180-96-6		2B				
Indeno (1,2,3 cd) pyrene	193-39-5	S	2B				
Insecticides; nonarsenical spraying	NA		2A				
Iodine 131	10043-66-0					X	
Ionizing radiation	NA				X		
Iron dextran complex	9004-66-4	S	2B				
Isodrin	465-73-6						X
Isolan	119-38-0						X
Isoprene	78-79-5		2B				
Isopropylphenyl N-methylcarbamate; 3	64-00-6						X
Isotretinoin	4759-48-2					X	
Kanechlor 500	25429-29-2	S					
Kepone	143-50-0		2B			X	
Lasiocarpine	303-34-4		2B				
Lead	7439-92-1					XFM	
Lead acetate	301-04-2	S					
Lead arsenate	7784-40-9	K					
Lead chromate	7758-97-6	K					
Lead phosphate	7446-27-7	S					
Lead, elemental & inorganic compounds	7439-92-1		2B				
Lindane	58-89-9	S					

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Lirazepam	846-49-1					X	
Lithium	7439-93-2				X		
Lithium carbonate	554-13-2					X	
Lithium citrate	919-16-4					X	
Lovastatin	75330-75-5					X	
MOPP; specified combined therapies	NA		1				
Manganese dimethyldithiocarbamate.	15339-36-3						X
Manganese; bis(dimethylcarbamo-dithioato-S,S')-...	15339-36-3						X
MeA-a-C(2-amino-3-methyl-9H-pyrido[2,3-b]indole	68006-83-7		2B				
Mechlorethamine; see nitrogen mustard							
Medroxyprogesterone acetate	71-58-9		2B			X	
Megestrol acetate	595-33-5					X	
Melphalan	148-82-3	K	1			X	
Menotropins	9002-68-0					X	
Meprobamate	57-53-4					X	
Mercaptopurine	6112-76-1					X	
Mercury	7439-97-6					X	
Mercury fulminate	628-86-4						X
Mercury; inorganic forms including metallic	NA					X	
Mercury; organic	NA				X	X	
Merphalan	531-76-0		2B				
Methacycline hydrochloride	3963-95-9					X	
Methanamine; N-methyl-N-nitroso-	62-75-9						X
Methimazole	60-56-0				X	X	
Methiocarb	2032-65-7						X
Methomyl	16752-77-5						X
Methotrexate	59-05-2				X	X	
Methoxsalen w/ultraviolet A therapy	NA	K					
Methoxyethanol; 2	109-86-4					XM	
Methoxyethyl acetate; 2	110-49-6					XM	
Methoxypsoralen; 5	484-20-8		2A				
Methoxypsoralen; 8; plus ultra violet radiation	298-81-7		1				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Methyl bromide as a structural fumigant	74-83-9					X	
Methyl cellosolve ; see 2-methoxyethanol							
Methyl cellosolve acetate; see 2-methoxyethyl...							
Methyl chrysene; 5	3697-24-3	S	2B				X
Methyl hydrazine	60-34-4						X
Methyl isocyanate	624-83-9						X
Methyl mercury substances	NA				X	X	
Methyl methanesulphonate	66-27-3		2B				
Methyl parathion	298-00-0						X
Methyl-1-nitroanthraquinone; 2	129-15-7		2B				
Methyl-N'-nitro-N-nitrosoguanidine; n-; (MNNG)	70-25-7		2A				
Methyl-N-nitrosourea; N-	684-93-5		2A				
Methyl-N-nitrosourethane; N-	6615-53-2		2B				
Methylaminopterin virus	NA				X		
Methylazoxymethanol & its acetate	NA		2B				
Methylazridine; 2	75-55-8		2B				
Methylene chloride	75-09-2	S	2B				
Methylene dianiline; 4, 4	101-77-9		2B				
Methylene-bis(2-chloroaniline) MOCA; 4, 4'	101-14-4		2A				
Methylene-bis(2-methylaniline); 4, 4'	838-88-0		2B				
Methylactonitrile; 2; see acetone cyanohydrin							X
Methyltestosterone	58-18-4					X	
Methylthiouracil	56-04-2		2B				
Metolcarb	1129-41-5						X
Metronidazole	443-48-1		2B				
Mexacarbamate	315-18-4						X
Midazolam hydrochloride	59467-96-8					X	
Mineral oils; untreated & mildly treated	NA		1				
Minocycline hydrochloride; internal use	13614-98-7					X	
Mirex	2385-85-5		1				
Misoprostol	59122-46-2					X	
Mitomycin C	50-07-7		2B				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Mitoxantrone hydrochloride	70476-82-3					X	
Monocrotaline	315-22-0		2B				
Monomethyl hydrazine; see methyl hydrazine							
Morpholinomethyl)-3-[(5-nitrofurfurylidene)...	139-91-3		2B				
Mustard gas	505-60-2	K	1				
Myleran, see 1,4-Butanediol dimethanesulfonate							
Nafarelin acetate	86220-42-0					X	
Nafenopin	3771-19-5		2B				
Naphthylamine; alpha	134-32-7			X			
Naphthylamine; beta	91-59-8	K	1	X			
Naphthylamine; see naphthylamine; beta 2							
Naphthylthiourea; alpha-	86-88-4						X
Netilmicin	56391-57-2					X	
Nickel carbonyl	13463-39-3						X
Nickel compounds, essentially sulfate & sulfide	NA		1				
Nickel cyanide	557-19-7						X
Nickel; metal	7440-02-0		2B				
Nicotine	54-11-5					X	
Nicotine; & salts	NA						X
Niridazole	61-57-4		2B				
Nitric oxide	10102-43-9						X
Nitrilotriacetic acid & salts	139-13-9		2B				
Nitroacenaphthene; 5	602-87-9		2B				
Nitroaniline; p-	100-01-6						X
Nitrobenzenamine, 4; see nitroaniline, p-							
Nitrobiphenyl; 4; see 4-nitrodiphenyl							
Nitrodiphenyl; 4	92-93-3			X			
Nitrofen	1836-75-5	S					
Nitrofen; technical grade	1836-75-5		2B				
Nitrofurantoin	67-20-9					M	
Nitrogen dioxide	10102-44-0						X
Nitrogen mustard	51-75-2		2A			X	

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Nitrogen mustard N-oxide	126-85-2		2B				
Nitrogen mustard hydrochloride	55-86-7	S				X	
Nitrogen oxide NO	0102-43-9						X
Nitrogen oxide NO2	0102-44-0						X
Nitroglycerine	55-63-0						X
Nitropropane; 2	79-46-9	S	2B				
Nitroso-n-ethylurea; n-	759-73-9	S	2A				
Nitroso-n-methylurea; n-	684-93-5	S					
Nitrosodi-n-butylamine; n-	924-16-3	S	2B				
Nitrosodi-n-propylamine; n-	621-64-7	S	2B				
Nitrosodiethanolamine; n-	1116-54-7	S	2B				
Nitrosodiethylamine; n-	55-18-5	S	2A				
Nitrosodimethylamine; n-	62-75-9	S	2A	X			X
Nitrosomethylethylamine; n-	10595-95-6		2B				
Nitrosomethylvinylamine; n-	4549-40-0	S	2B				X
Nitrosomorpholine; n-	59-89-2	S	2B				
Nitrosornicotine; n-	16543-55-8	S	2B				
Nitrosopiperidine; n-	100-75-4	S	2B				
Nitrosopyrrolidine; n-	930-55-2	S	2B				
Nitrososarcosine	13256-22-9	S	2B				
Norethindrone; see norethisterone							
Norethisterone	68-22-4	S				X	
Norethisterone acetate	51-98-9					X	
Norethisterone ethinyl/estradiol	68-22-4					X	
Norethisterone/ mestranol	72-33-3					X	
Ochratoxin A	303-47-9	S	2B				
Octamethylpyrophosphoramidate	152-16-9						X
Oestrogens; nonsteriodal	NA		1				
Oestrogens; steriodal (not all in group)	NA		1				
Oestrone replacement therapy	NA		1				
Oral contraceptives; combined & sequential	NA		1				
Osmium tetroxide	20816-12-0						X



SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Oxamyl	23135-22-0						X
Oxazepam	604-75-51					X	
Oxydianiline; 4, 4'	101-80-4	S	2B				
Oxymetholone	434-07-1	S	2A				
Oxytetracycline hydrochloride; internal use	2058-46-0					X	
Oxytetracycline; internal use	79-57-2					X	
Panfuran S; containing dihydroxymethylfuratrizine	NA		2B				
Paramethadione	1156-67-3					X	
Parathion	56-38-2						X
Parvovirus B-19	NA				X		
Penicillamine	52-67-5				X	X	
Pentachlorophenol	87-86-5		2B				
Pentobarbital sodium	57-33-0					X	
Perchloroethylene	127-18-4	S	2B				
Petroleum refining	NA		2A				
Phenacemide	63-98-9					X	
Phenacetin	62-44-2		2A				
Phenacetin, analgesic mixtures containing	62-44-2	K	1				
Phenazopyridine hydrochloride	136-40-3	S	2B				
Phenobarbital	50-06-6		2B				
Phenol; 2-cyclohexyl-4, 6-dinitro-	131-89-5						X
Phenoxybenzamine hdrochloride	63-92-3	S	2B				
Phenprocoumon	435-97-2					X	
Phenyl glycidyl ether (PGE)	122-60-1		2B				
Phenyl mercaptan	108-98-5						X
Phenylmercury acetate	62-38-4						X
Phenylthiourea	103-85-5						X
Phenytoin	57-41-0	S	2B		X	X	
Phorate	298-02-2						X
Phosgene	75-44-5						X
Phosphine	7803-51-2						X
Phosphoric acid; diethyl 4-nitrophenyl ester	311-45-5						X

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Phosphorofluoridic acid; bis(1-methylethyl) ester	55-91-4						X
Physostigmine	57-47-6						X
Physostigmine salicylate	57-64-7						X
Pipobroman	54-91-1					X	
Plicamycin	18378-89-7					X	
Plumbane; tetraethyl-; see tetraethyl lead							
Polybrominated biphenyls	922-66-0	S				X	
Polychlorinated biphenyls	1336-36-3	S	2B			X	
Ponceau 3R	3564-09-8		2B				
Ponceau MX	3761-53-3		2B				
Potassium arsenate	7784-41-0	K					
Potassium arsenite	13464-35-2	K					
Potassium bromate	7758-01-2		2B				
Potassium cyanide	151-50-8						X
Potassium silver cyanide	506-61-6						X
Procarbazine hydrochloride	366-70-1	S	2A			X	
Progesterone	57-83-0	S					
Progestins	NA		2B				
Promecarb	2631-37-0						X
Propane sultone; 1, 3	1120-71-4	S	2B				
Propanenitrile	107-12-0						X
Propanone; 1-bromo-2, see bromoacetone							
Propargyl alcohol	107-19-7						X
Propenal; 2; see acrolein							
Propriolactone; beta	57-57-8	S	2B	X			
Propylene imine	75-55-8						X
Propylene oxide	75-56-9	S	2B				
Propylenimine; 1, 2; see propylene imine							
Propylthiouracil	51-52-5	S	2B			X	
Pyridinamine; 4; See 4-aminopyridine							
Pyridine; 3-(1-methyl-2-pyrrolidinyl)-; (S)-...	54-11-5						X
Quartz; see silica; crystalline							

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Radon	10043-92-2	K					
Reserpine	50-55-5	S					
Retinoic acid	302-79-4					X	
Retinol/retinyl esters; >10k IU/day	NA					X	
Ribavirin	36791-04-5					X	
Rubella virus	NA				X		
Saccharin	128-44-9	S	2B				
Safrole	94-59-7	S	2B				
Secobarbital sodium	309-43-3					X	
Selenium sulfide	7446-34-6	S					
Selenourea	630-10-4						X
Silica; crystalline; cristobalite	14464-46-1		2A				
Silica; crystalline; quartz; respirable	14808-60-7	S	2A				
Silica; crystalline; tripoli	1317-95-9		2A				
Silver cyanide	506-64-9						X
Soapstone dust; see talc, containing no asbestos							
Sodium arsenate	7631-89-2	K					
Sodium arsenite	7784-46-5	K					
Sodium azide	26628-22-8						X
Sodium cyanide	144-33-9						X
Sodium fluoroacetate	62-74-8						X
Sodium ortho-phenylphenate	132-27-4		2B				
Solar radiation			1				
Sterigmatocystin	10048-13-2		2B				
Steroids; androgenic (anabolic)	NA		2A			XFM	
Streptozotocin	18883-66-4	S	2B				
Strontium chromate	7789-06-2	K					
Strychnidin-10-one; & salts	57-24-9						X
Strychnine	57-24-9						X
Styrene	100-42-5		2B				
Styrene oxide	96-09-3		2A				
Sulfallate	95-06-7	S	2B				

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Sulfuric acid; occupational exp., inorg mists			1				
TEPP; see tetraethylpyrophosphate							
Talc; containing asbestos; see asbestos			1				
Tamoxifen	54965-24-1					X	
Temazepam	846-50-4					X	
Testosterone cypionate	58-20-8					X	
Testosterone enanthate	315-37-7					X	
Tetrachlorodibenzo-p-dioxin (TCDD); 2, 3, 7, 8	1746-01-6	S	2B			X	
Tetrachloroethylene, see perchloroethylene							
Tetrachloromethane; see carbon tetrachloride							
Tetracycline hydrochloride; internal use	64-75-5					X	
Tetracycline; internal use	60-54-8					X	
Tetraethyl lead	78-00-2						X
Tetraethyl pyrophosphate	107-49-3						X
Tetranitromethane	509-14-8	S					X
Thalidomide	50-35-1				X	X	
Thallic oxide	1314-32-5						X
Thallium(I) selenite	12039-52-0						X
Thallium(I) sulfate	7446-18-6						X
Thioacetamide	62-55-5	S	2B				
Thiodianiline; 4, 4'	139-65-1		2B				
Thiofanox	39196-18-4						X
Thioguanine	154-42-7					X	
Thioimidodicarbonic diamide [(H <sub>2</sub> N)C(S)] <sub>2</sub> NH	541-53-7						X
Thiophenol; see phenyl mercaptan							
Thiosemicarbazide	79-19-6						X
Thiotepa; see tris (1-aziridiny) phosphine sul...							
Thiourea	62-56-6	S	2B				
Thiourea; (2-chlorophenyl)-	5344-82-1						X
Thorium dioxide	1314-20-1	K					
Tirpate	26419-73-8						X
Tobramycin sulfate	49842-07-1					X	

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Tolidine; o-; see 3,3-dimethylbenzidine							
Toluene diisocyanate	26471-62-5	S					
Toluene diisocyanates	NA		2B				
Toluenes; chlorinated	NA		2B				
Toluidine hydrochloride; o-	636-21-5	S					
Toluidine; o-	95-53-4	S	2B				
Toluol; see toluene							
Toxaphene; see chlorinated camphene							X
Toxoplasmosis	NA				X		
Trans-2-[(dimethylamino)methylamino]-5-[2-(5-ni...	55738-54-0		2B				
Tremolite; asbestiform; see asbestos							
Treosulphan	299-75-2		1				
Triazolam	28911-01-5					X	
Trichloromethane; see chloroform							
Trichloromethanethiol	75-70-7						X
Trichlorophenol; 2, 4, 6	88-06-2	S					
Tricyclohexyltin hydroxide; see cyhexatin							
Tridymite; see silica							
Trilostane	13647-35-3					X	
Trimethadione	127-48-0				X	X	
Tris (1-aziridinyl) phosphine sulfide	52-24-4	S	1				
Tris (2;3-dibromopropyl) phosphate	126-72-7	S	2A				
Trp-P-1(3-amino-1,4-dimethyl-5H-pyrido[4,3-b]...	62450-06-0		2B				
Trp-P-2(3-amino-1-methyl-5H-pyrido[4,3-b]indole	62450-07-1		2B				
Trypan blue (commercial grade)	72-57-1		2B				
Ultraviolet Radiation; A,B,& C, including sunlamps	NA		2A				
Uracil mustard	66-75-1		2B			XFM	
Urethane	51-79-6	S	2B			X	
Urofollitropin	26995-91-5					X	
Valproate; see valproic acid							
Valproic acid	99-66-1				X	X	
Vanadium oxide V2O5	1314-62-1						X

SUBSTANCE	CAS #	CARC NTP	CARC IARC	CARC OSHA	REPRO SHEP	REPRO CALIF	HTX EPA
Venezuelan equine virus	NA				X		
Vinblastine sulfate	143-67-9					X	
Vincristine sulfate	2068-78-2					X	
Vinyl benzene; see styrene							
Vinyl bromide	593-60-2		2A				
Vinyl chloride	75-01-4	K	1				
Vinyl cyanide; see acrylonitrile							
Vinyl cyclohexene diepoxide; 4	106-87-6	S	2B				
Vinyl cyclohexene dioxide; see 4-vinyl cyclohex...							
Vinyl cyclohexene; 4	100-40-3		2B				
Warfarin	81-81-2					X	
Welding fumes	NA		2B				
Xylidene; 2, 6 see 2,6-dimethylaniline							
Zinc chromate	13530-65-9	K					
Zinc cyanide	557-21-1						X
Zinc phosphide Zn <sub>3</sub> P <sub>2</sub> ; when present at concentra...	1314-84-7						X
Zinc; bis(dimethylcarbamo-dithioato-S;S')-;	137-30-4						X
[(5-nitrofurfurylidine)amino]-2-imidazolidinone; 1	555-84-0		2B				
[4-(5-nitro-2-furyl)-2-thiazolyl]acetamide; n	531-82-8		2B				