

# List of Chemicals Requiring Review

## Summary of Changes with this Revision\*

Changes are highlighted in text of this document.

### Text added on page 1:

The purpose of the **Chemical Review** is to identify significant hazards to research staff and animal care staff during dosing and study conditions under IACUC.

### Text added on page 2:

#### PLEASE NOTE:

The following do **not** require *Chemical Review*:

- Drugs or chemicals dosed at levels to induce normal physiological effects in laboratory animals (< 75 lbs.).
- Estrogens dosed at levels below 1 mg/kg for laboratory animals.
- Androgens, progestagens, and glucocorticoids dosed at levels below 2 mg/kg for laboratory animals.
- Peptide/protein hormones. Although peptide hormones may pose a human health hazard in the laboratory or prior to dosing, they are degraded once they are injected into the body. Examples include follicle stimulating hormone (FSH), chorionic gonadotropin (hCG), insulin, luteinizing hormone (LH), and thyroid stimulating hormone (TSH).

This is based on DRS Chemical Safety's discussions with University of Illinois experts in the field.

**NOTE:** Chemicals which are of human or biological origin (e.g., biotoxins, human-originated hCG, nonhuman primate material) may require *Biological Review*. See <http://www.drs.illinois.edu/bss/ibc/index.aspx?tbID=ibc>.

The purpose of the **Chemical Review** is to identify significant hazards to research staff and animal care staff during dosing and study conditions under IACUC. The lists below include chemicals which require a **Chemical Review** if used in animal protocols. These chemicals were selected according to the following criteria:

- The chemical is classified as a carcinogen or reproductive toxin** – for example, by California Proposition 65. (See Table A.)
- The chemical is classified as a restricted pesticide** – for example, it is among “pesticides classified for restricted use” by the EPA under the Federal Insecticide, Fungicide, Rodenticide Act, (FIFRA)- 40 CFR 152.175. (See Table B.)
- The chemical is classified as an explosive** – for example, as a 1.1 explosive by the DOT per 49 CFR 172.101. (See Table C.)
- The chemical is classified as highly toxic** – for example, as identified by product labeling or as defined by the following criteria:

Oral :	LD <sub>50</sub> < 50 mg/kg (oral rat)
Inhalation :	LC <sub>50</sub> < 200 ppm / 1 hr or 2000 mg/m <sup>3</sup> / 1 hr
Skin Contact:	LD <sub>50</sub> < 200 mg/kg (rabbit)

- The chemical has been otherwise identified as a chemical requiring review in the past.** This would include the following:
  - Atrazine
  - Azoxymethane
  - Bromo-Deoxyuridine (BrDU)
  - Dexamethasone 21-phosphate disodium salt
  - Finasteride (Proscar)
  - Fulvesterant
  - Methamphetamine
  - Methoxychlor
  - S-Metolachlor

A **Chemical Review** is required for chemicals that are not specifically listed but meet any of the definitions above (A-D). Please complete the application found at [www.drs.illinois.edu/css/forms/review](http://www.drs.illinois.edu/css/forms/review) for all chemicals which require review. For assistance in determining if a chemical requires review, please contact DRS at [css@uiuc.edu](mailto:css@uiuc.edu).

The information on these lists was last updated 4/25/07.

## How to Search the Lists

Use the **Find** function (or the **Ctrl + F** shortcut) to determine if your chemical is in one of these lists. Searching by CAS (Chemical Abstract Service) number is probably the most efficient. Searching by chemical name may be useful, although many chemicals have synonyms which may not be included in these lists. See your Material Safety Data Sheet (MSDS) for CAS number and synonyms.

NOTE: Do not use hyphens (-) or spaces when using the **Find** function.

## Table A. Carcinogens & Reproductive Toxins per California Proposition 65

There are a few groups of chemicals under this heading that require review, some of which are not on the California Proposition 65 List or do not have a CAS number. They are as follows:

- Androgenic (anabolic) steroids (such as Oxymetholone, Testosterone, Testosterone oenanthate, and Testosterone propionate)
- Estrogens, Steroidal (such as Sodium oestrone sulphate, Sodium equilin sulphate, Piperazine oestrone sulphate, Oestradiol-17 b, Oestradiol 3-benzoate, Oestradiol dipropionate, Oestradiol-17b-valerate, Polyoestradiol phosphate, Oestriol, Oestrone, Oestrone benzoate, Ethinyloestradiol, Mestranol)
- Heterocyclic Amines
- Oestrogens, nonsteroidal (such as Diethylstilboestrol, Diethylstilboestrol dipropionate, Dienoestrol, Hexoestrol, Chlorotrianisene)
- Polychlorinated biphenyls (PCBs)
- Aminoglycosides (such as the following and their synonyms: Nystatin, Neomycin A, Ribostamycin , Butirosin, Neomycin B , Paromomycin , Lividomycin, Kanamycin , Kanamycin B, Tobramycin.
- Angiotensin converting enzyme (ACE) inhibitors
- Mercury and mercury compounds
- Polybrominated biphenyls
- Tributyltin compounds

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- Androgens, progestagens, and glucocorticoids dosed at levels below 2 mg/kg for laboratory animals.
- Peptide/protein hormones. Although peptide hormones may pose a human health hazard in the laboratory or prior to dosing, they are degraded once they are injected into the body. Examples include follicle stimulating hormone (FSH), chorionic gonadotropin (hCG), insulin, luteinizing hormone (LH), and thyroid stimulating hormone (TSH).

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The following table is the **California Proposition 65 List** of chemicals known to cause cancer or reproductive toxicity:

Chemical Name	CAS Number
A-alpha-C (2-Amino-9H-pyrido[2,3-b]indole)	26148685
Acetaldehyde	75070
Acetamide	60355

Acetazolamide	59665
Acetochlor	34256821
Acetohydroxamic acid	546883
2-Acetylaminofluorene	53963
Acifluorfen	62476599
Acrylamide	79061
Acrylonitrile	107131
Actinomycin D	50760
Actinomycin D	50760
AF-2;[2-(2-furyl)-3-(5-nitro-2-furyl)]acrylamide	3688537
Aflatoxins	
Alachlor	15972608
Aldrin	309002
All-trans retinoic acid	302794
Alprazolam	28981977
Altretamine	645056
Amantadine hydrochloride	665667
Amikacin sulfate	39831555
2-Aminoanthraquinone	117793
<i>p</i> -Aminoazobenzene	60093
<i>o</i> -Aminoazotoluene	97563
4-Aminobiphenyl (4-amino-diphenyl)	92671
1-Amino-2,4-dibromoanthraquinone	81492
3-Amino-9-ethylcarbazole hydrochloride	6109973
2-Aminofluorene	153786
Aminoglutethimide	125848
Aminoglycosides	
1-Amino-2-methylantraquinone	82280
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	712685
4-Amino-2-nitrophenol	119346
Aminopterin	54626
Amiodarone hydrochloride	19774824
Amitraz	33089611
Amitrole	61825
Amoxapine	14028445
Anabolic steroids	
Analgesic mixtures containing Phenacetin	
Angiotensin converting enzyme (ACE) inhibitors	
Aniline	62533
Aniline hydrochloride	142041
<i>o</i> -Anisidine	90040
<i>o</i> -Anisidine hydrochloride	134292
Anisindione	117373
Antimony oxide (Antimony trioxide)	1309644
Aramite	140578
Areca nut	
Aristolochic acids	
Arsenic (inorganic arsenic compounds)	
Arsenic (inorganic oxides)	
Asbestos	1332214
Aspirin	50782
Atenolol	29122687

Auramine	492808
Auranofin	34031328
Azacitidine	320672
Azaserine	115026
Azathioprine	446866
Azathioprine	446866
Azobenzene	103333
Barbiturates	
Beclomethasone dipropionate	5534098
Benomyl	17804352
Benz[a]anthracene	56553
Benzene	71432
Benzene	71432
Benzidine [and its salts]	92875
Benzidine-based dyes	
Benzodiazepines	
Benzo[b]fluoranthene	205992
Benzo[j]fluoranthene	205823
Benzo[k]fluoranthene	207089
Benzofuran	271896
Benzo[a]pyrene	50328
Benzotrichloride	98077
Benzphetamine hydrochloride	5411223
Benzyl chloride	100447
Benzyl violet 4B	1694093
Beryllium and beryllium compounds	
Betel quid with tobacco	
Betel quid without tobacco	
2,2-Bis(bromomethyl)-1,3-propanediol	3296900
Bis(2-chloroethyl)ether	111444
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chlornapazine)	494031
Bischloroethyl nitrosourea (BCNU) (Carmustine)	154938
Bischloroethyl nitrosourea (BCNU) (Carmustine)	154938
Bis(chloromethyl)ether	542881
Bis(2-chloro-1-methylethyl)ether, technical grade	
Bitumens, extracts of steam-refined and air refined	
Bracken fern	
Bromacil lithium salt	53404196
Bromacil lithium salt	53404196
Bromate	15541454
Bromodichloromethane	75274
Bromoethane	74964
Bromoform	75252
1-Bromopropane	106945
2-Bromopropane	75263
Bromoxynil	1689845
Bromoxynil octanoate	1689992
Butabarbital sodium	143817
1,3-Butadiene	106990
1,3-Butadiene	106990
1,4-Butanediol dimethanesulfonate (Busulfan)	55981
1,4-Butanediol dimethanesulfonate (Busulfan)	55981

Butylated hydroxyanisole	25013165
Butyl benzyl phthalate (BBP)	85687
beta-Butyrolactone	3068880
Cacodylic acid	75605
Cadmium and cadmium compounds	
Caffeic acid	331395
Captafol	2425061
Captan	133062
Carbamazepine	298464
Carbazole	86748
Carbon black (airborne, unbound particles of respirable size)	1333864
Carbon disulfide	75150
Carbon monoxide	630080
Carbon tetrachloride	56235
Carbon-black extracts	
Carboplatin	41575944
N-Carboxymethyl-N-nitrosourea	60391926
Catechol	120809
Ceramic fibers (airborne particles of respirable size)	
Certain combined chemotherapy for lymphomas	
Chenodiol	474259
Chlorambucil	305033
Chlorambucil	305033
Chloramphenicol	56757
Chlorcyclizine hydrochloride	1620219
Chlordane	57749
Chlordecone (Kepone)	143500
Chlordecone (Kepone)	143500
Chlordiazepoxide	58253
Chlordiazepoxide hydrochloride	438415
Chlordimeform	6164983
Chlorendic acid	115286
Chlorinated paraffins	108171262
<i>p</i> -Chloroaniline	106478
<i>p</i> -Chloroaniline hydrochloride	20265967
Chloroethane (Ethyl chloride)	75003
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)	13010474
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)	13010474
1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (Methyl-CCNU)	13909096
Chloroform	67663
Chloromethyl methyl ether (technical grade)	107302
3-Chloro-2-methylpropene	563473
1-Chloro-4-nitrobenzene	100005
4-Chloro- <i>o</i> -phenylenediamine	95830
Chloroprene	126998
Chlorothalonil	1897456
<i>p</i> -Chloro- <i>o</i> -toluidine	95692
<i>p</i> -Chloro- <i>o</i> -toluidine, strong acid salts of	
<i>p</i> -Chloro- <i>o</i> -toluidine, hydrochloride	
5-Chloro- <i>o</i> -toluidine and its strong acid salts	
Chlorotrianisene	569573
Chlorozotocin	54749905

Chlorsulfuron	64902723
Chromium (hexavalent compounds)	
Chrysene	218019
C.I. Acid Red 114	6459945
C.I. Basic Red 9 monohydrochloride	569619
C.I. Direct Blue 15	2429745
C.I. Direct Blue 218	28407376
C.I. Solvent Yellow 14	842079
Ciclosporin (Cyclosporin A; Cyclosporine)	59865133 79217600
Cidofovir	113852372
Cinnamyl anthranilate	87296
Cisplatin	15663271
Citrus Red No. 2	6358538
Cladribine	4291638
Clarithromycin	81103119
Clobetasol propionate	25122467
Clofibrate	637070
Clomiphene citrate	50419
Clorazepate dipotassium	57109907
Cobalt metal powder	7440484
Cobalt [II] oxide	1307966
Cobalt sulfate	10124433
Cobalt sulfate heptahydrate	10026241
Cocaine	50362
Codeine phosphate	52288
Coke oven emissions	
Colchicine	64868
Conjugated estrogens	
Conjugated estrogens	
Creosotes	
<i>p</i> -Cresidine	120718
Cupferron	135206
Cyanazine	21725462
Cycasin	14901087
Cycloate	1134232
Cycloheximide	66819
Cyclophosphamide (anhydrous)	50180
Cyclophosphamide (anhydrous)	50180
Cyclophosphamide (hydrated)	6055192
Cyclophosphamide (hydrated)	6055192
Cyhexatin	13121705
Cytarabine	147944
Cytembena	21739913
D&C Orange No. 17	3468631
D&C Red No. 8	2092560
D&C Red No. 9	5160021
D&C Red No. 19	81889
Dacarbazine	4342034
Dacarbazine	4342034
Daminozide	1596845
Danazol	17230885

Dantron (Chrysazin; 1,8-Dihydroxyanthraquinone)	117102
Daunomycin	20830813
Daunorubicin hydrochloride	23541506
2,4-D butyric acid	94826
DDD (Dichlorodiphenyl-dichloroethane)	72548
DDE (Dichlorodiphenyl-dichloroethylene)	72559
DDT (Dichlorodiphenyl-trichloroethane)	50293
o,p'-DDT	789026
p,p'-DDT	50293
DDVP (Dichlorvos)	62737
N,N'-Diacetylbenzidine	613354
2,4-Diaminoanisole	615054
2,4-Diaminoanisole sulfate	39156417
4,4'-Diaminodiphenyl ether (4,4'-Oxydianiline)	101804
2,4-Diaminotoluene	95807
Demeclocycline hydrochloride (internal use)	64733
Diaminotoluene (mixed)	
Diazepam	439145
Diazoaminobenzene	136356
Diazoxide	364987
Dibenz[a,h]acridine	226368
Dibenz[a,j]acridine	224420
Dibenz[a,h]anthracene	53703
7H-Dibenzo[c,g]carbazole	194592
Dibenzo[a,e]pyrene	192654
Dibenzo[a,h]pyrene	189640
Dibenzo[a,i]pyrene	189559
Dibenzo[a,l]pyrene	191300
1,2-Dibromo-3-chloropropane (DBCP)	96128
1,2-Dibromo-3-chloropropane (DBCP)	96128
2,3-Dibromo-1-propanol	96139
Dichloroacetic acid	79436
p-Dichlorobenzene	106467
3,3'-Dichlorobenzidine	91941
3,3'-Dichlorobenzidine dihydrochloride	612839
1,4-Dichloro-2-butene	764410
3,3'-Dichloro-4,4'-diamino-diphenyl ether	28434868
1,1-Dichloroethane	75343
Dichloromethane (Methylene chloride)	75092
Dichlorophene	97234
Dichlorphenamide	120978
Diclofop methyl	51338273
1,2-Dichloropropane	78875
1,3-Dichloropropene	542756
Dicumarol	66762
Dieldrin	60571
Dienestrol	84173
Diepoxybutane	1464535
Diesel engine exhaust	
Di-n-butyl phthalate (DBP)	84742
Di(2-ethylhexyl)phthalate	117817
Di(2-ethylhexyl)phthalate	117817

Di- <i>n</i> -hexyl phthalate (DnHP)	84753
1,2-Diethylhydrazine	1615801
Diethylstilbestrol (DES)	56531
Diethylstilbestrol (DES)	56531
Diethyl sulfate	64675
Diflunisal	22494424
Diglycidyl resorcinol ether (DGRE)	101906
Dihydroergotamine mesylate	6190392
Dihydrosafrole	94586
Diisopropyl sulfate	2973106
Di-isodecyl phthalate (DIDP)	68515491 26761400
Diltiazem hydrochloride	33286225
3,3'-Dimethoxybenzidine ( <i>o</i> -Dianisidine)	119904
3,3'-Dimethoxybenzidine dihydrochloride	20325400
3,3'-Dimethoxybenzidine-based dyes metabolized to 3,3'-dimethoxybenzidine	
4-Dimethylaminoazobenzene	60117
<i>trans</i> -2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	55738540
7,12-Dimethylbenz(a)anthracene	57976
3,3'-Dimethylbenzidine (ortho-Tolidine)	119937
3,3'-Dimethylbenzidine dihydrochloride	612828
3,3'-Dimethylbenzidine-based dyes metabolized to 3,3'-dimethylbenzidine	
Dimethylcarbamoyl chloride	79447
1,1-Dimethylhydrazine (UDMH)	57147
1,2-Dimethylhydrazine	540738
Dimethyl sulfate	77781
Dimethylvinylchloride	513371
<i>m</i> -Dinitrobenzene	99650
<i>o</i> -Dinitrobenzene	528290
<i>p</i> -Dinitrobenzene	100254
3,7-Dinitrofluoranthene	105735715
3,9-Dinitrofluoranthene	22506532
1,6-Dinitropyrene	42397648
1,8-Dinitropyrene	42397659
Dinitrotoluene (technical grade)	
Dinitrotoluene mixture, 2,4-/2,6-	
2,4-Dinitrotoluene	121142
2,4-Dinitrotoluene	121142
2,6-Dinitrotoluene	606202
2,6-Dinitrotoluene	606202
Dinocap	39300453
Dinoseb	88857
1,4-Dioxane	123911
Diphenylhydantoin (Phenytoin)	57410
Diphenylhydantoin (Phenytoin)	57410
Diphenylhydantoin (Phenytoin), sodium salt	630933
Di- <i>n</i> -propyl isocinchomeronate (MGK Repellent 326)	136458
Direct Black 38 (technical grade)	1937377
Direct Blue 6 (technical grade)	2602462
Direct Brown 95 (technical grade)	16071866
Disodium cyanodithioimidocarbonate	138932

Disperse Blue 1	2475458
Diuron	330541
Doxorubicin hydrochloride (Adriamycin)	25316409
Doxorubicin hydrochloride (Adriamycin)	25316409
Doxycycline (internal use)	564250
Doxycycline calcium (internal use)	94088854
Doxycycline hyclate (internal use)	24390145
Doxycycline monohydrate (internal use)	17086281
Endrin	72208
Environmental tobacco smoke (ETS)	
Epichlorohydrin	106898
Epichlorohydrin	106898
Ergotamine tartrate	379793
Erionite	12510428 66733219
Estradiol 17B	50282
Estragole	140670
Estrogens, steroidal	
Estrone	53167
Estropipate	7280377
Ethinylestradiol	57636
Ethionamide	536334
Ethoprop	13194484
Ethyl acrylate	140885
Ethyl alcohol in alcoholic beverages	
Ethylbenzene	100414
Ethyl dipropylthiocarbamate	759944
Ethyl-4,4'-dichlorobenzilate	510156
Ethylene dibromide	106934
Ethylene dibromide	106934
Ethylene dichloride (1,2-Dichloroethane)	107062
Ethylene glycol monoethyl ether	110805
Ethylene glycol monoethyl ether acetate	111159
Ethylene glycol monomethyl ether	109864
Ethylene glycol monomethyl ether acetate	110496
Ethyleneimine	151564
Ethylene oxide	75218
Ethylene oxide	75218
Ethylene thiourea	96457
Ethylene thiourea	96457
Ethyl methanesulfonate	62500
Etodolac	41340254
Etoposide	33419420
Etretinate	54350480
Fenoxaprop ethyl	66441234
Fenoxycarb	72490018
Filgrastim	121181531
Fluazifop butyl	69806504
Flunisolide	3385033
Fluorouracil	51218
Fluoxymesterone	76437
Flurazepam hydrochloride	1172185

Flurbiprofen	5104494
Flutamide	13311847
Fluticasone propionate	80474142
Fluvalinate	69409945
Folpet	133073
Formaldehyde (gas)	50000
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	3570750
Fumonisin B <sub>1</sub>	116355830
Furan	110009
Furazolidone	67458
Furmecyclox	60568050
Fusarin C	79748815
Ganciclovir sodium	82410320
Gasoline engine exhaust (condensates/extracts)	
Gemfibrozil	25812300
Gemfibrozil	25812300
Glasswool fibers (airborne particles of respirable size)	
Glu-P-1 (2-Amino-6-methyldipyrido[1,2- a:3',2'-d]imidazole)	67730114
Glu-P-2 (2-Aminodipyrido[1,2-a:3',2'-d]imidazole)	67730103
Glycidaldehyde	765344
Glycidol	556525
Goserelin acetate	65807025
Griseofulvin	126078
Gyromitrin (Acetaldehyde methylformylhydrazone)	16568028
Halazepam	23092173
Halobetasol propionate	66852548
Haloperidol	52868
Halothane	151677
HC Blue 1	2784943
Heptachlor	76448
Heptachlor	76448
Heptachlor epoxide	1024573
Herbal remedies containing plant species of the genus Aristolochia	
Hexachlorobenzene	118741
Hexachlorobenzene	118741
Hexachlorocyclohexane (technical grade)	
Hexachlorodibenzodioxin	3446546 8
Hexachloroethane	67721
2,4-Hexadienal (89% trans, trans isomer; 11% cis, trans isomer)	
Hexamethylphosphoramide	680319
Hexamethylphosphoramide	680319
Histrelin acetate	
Hydramethylnon	67485294
Hydrazine	302012
Hydrazine sulfate	10034932
Hydrazobenzene (1,2-Diphenylhydrazine)	122667
1-Hydroxyanthraquinone	129431
Hydroxyurea	127071
Idarubicin hydrochloride	57852570
Ifosfamide	3778732
Iodine-131	10043660
Indeno [1,2,3-cd]pyrene	193395

Indium phosphide	22398807
IQ (2-Amino-3-methylimidazo[4,5-f] quinoline)	76180966
Iprodione	36734197
Iron dextran complex	9004664
Isobutyl nitrite	542563
Isoprene	78795
Isotretinoin	4759482
Isoxaflutole	141112290
Lactofen	77501634
Lasiocarpine	303344
Lead	
Lead and lead compounds	
Lead acetate	301042
Lead phosphate	7446277
Lead subacetate	1335326
Leuprolide acetate	74381536
Levodopa	59927
Levonorgestrel implants	797637
Lindane and other hexachlorocyclohexane isomers	
Linuron	330552
Lithium carbonate	554132
Lithium citrate	919164
Lorazepam	846491
Lovastatin	75330755
Lynestrenol	52766
Mancozeb	8018017
Maneb	12427382
Me-A-alpha-C (2-Amino-3-methyl-9H-pyrido[2,3-b]indole)	68006837
Mebendazole	31431397
Medroxyprogesterone acetate	71589
Medroxyprogesterone acetate	71589
Megestrol acetate	595335
MeIQ (2-Amino-3,4-dimethylimidazo[4,5-f]quinoline)	77094112
MeIQx (2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline)	77500040
Melphalan	148823
Melphalan	148823
Menotropins	9002680
Meprobamate	57534
Mercaptopurine	6112761
Mercury and mercury compounds	
Merphalan	531760
Mestranol	72333
Methacycline hydrochloride	3963959
Metham sodium	137428
Metham sodium	137428
Methazole	20354261
Methimazole	60560
Methotrexate	59052
Methotrexate sodium	15475566
5-Methoxypsoralen with ultraviolet A therapy	484208
8-Methoxypsoralen with ultraviolet A therapy	298817
2-Methylaziridine (Propyleneimine)	75558

Methylazoxymethanol	590965
Methylazoxymethanol acetate	592621
Methyl bromide, as a structural fumigant	74839
Methyl carbamate	598550
Methyl chloride	74873
3-Methylcholanthrene	56495
5-Methylchrysene	3697243
4,4'-Methylene bis(2-chloroaniline)	101144
4,4'-Methylene bis(N,N-dimethyl)benzenamine	101611
4,4'-Methylene bis(2-methylaniline)	838880
4,4'-Methylenedianiline	101779
4,4'-Methylenedianiline dihydrochloride	13552448
Methyleugenol	93152
Methylhydrazine and its salts	
Methyl iodide	74884
Methyl mercury	
Methylmercury compounds	
Methyl methanesulfonate	66273
2-Methyl-1-nitroanthraquinone (of uncertain purity)	129157
N-Methyl-N'-nitro-N-nitrosoguanidine	70257
N-Methylolacrylamide	924425
N-Methylpyrrolidone	872504
Methyltestosterone	58184
Methylthiouracil	56042
Metiram	9006422
Metiram	9006422
Metronidazole	443481
Michler's ketone	90948
Midazolam hydrochloride	59467968
Minocycline hydrochloride (internal use)	13614987
Mirex	2385855
Misoprostol	59122462
Mitomycin C	50077
Mitoxantrone hydrochloride	70476823
Monocrotaline	315220
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxazolidinone	139913
Mustard Gas	505602
MX (3-chloro-4-dichloromethyl-5-hydroxy-2(5H)-furanone)	77439760
Myclobutanil	88671890
Nabam	142596
Nafarelin acetate	86220420
Nafenopin	3771195
Nalidixic acid	389082
Naphthalene	91203
1-Naphthylamine	134327
2-Naphthylamine	91598
Neomycin sulfate (internal use)	1405103
Netilmicin sulfate	56391572
Nickel (Metallic)	7440020
Nickel acetate	373024
Nickel carbonate	3333673
Nickel carbonyl	13463393

Nickel carbonyl	13463393
Nickel compounds	
Nickel hydroxide	12054487 12125563
Nickelocene	1271289
Nickel oxide	1313991
Nickel refinery dust from the pyrometallurgical process	
Nickel subsulfide	12035722
Nicotine	54115
Nifedipine	21829254
Nimodipine	66085594
Niridazole	61574
Nitrapyrin	1929824
Nitrapyrin	1929824
Nitrilotriacetic acid	139139
Nitrilotriacetic acid, trisodium salt monohydrate	18662538
5-Nitroacenaphthene	602879
<i>o</i> -Nitroanisole	91236
Nitrobenzene	98953
4-Nitrobiphenyl	92933
6-Nitrochrysene	7496028
Nitrofen (technical grade)	1836755
2-Nitrofluorene	607578
Nitrofurantoin	67209
Nitrofurazone	59870
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555840
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531828
Nitrogen mustard (Mechlorethamine)	51752
Nitrogen mustard (Mechlorethamine)	51752
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	55867
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	55867
Nitrogen mustard N-oxide	126852
Nitrogen mustard N-oxide hydrochloride	302705
Nitromethane	75525
2-Nitropropane	79469
1-Nitropyrene	5522430
4-Nitropyrene	57835924
N-Nitrosodi- <i>n</i> -butylamine	924163
N-Nitrosodiethanolamine	1116547
N-Nitrosodiethylamine	55185
N-Nitrosodimethylamine	62759
<i>p</i> -Nitrosodiphenylamine	156105
N-Nitrosodiphenylamine	86306
N-Nitrosodi- <i>n</i> -propylamine	621647
N-Nitroso-N-ethylurea	759739
3-(N-Nitrosomethylamino) propionitrile	60153493
4-(N-Nitrosomethylamino)-1-(3-pyridyl)1-butanone	64091914
N-Nitrosomethylethylamine	10595956
N-Nitroso-N-methylurea	684935
N-Nitroso-N-methylurethane	615532
N-Nitrosomethylvinylamine	4549400
N-Nitrosomorpholine	59892

N-Nitrosonor nicotine	16543558
N-Nitrosopiperidine	100754
N-Nitrosopyrrolidine	930552
N-Nitrososarcosine	13256229
o-Nitrotoluene	88722
Norethisterone (Norethindrone)	68224
Norethisterone (Norethindrone)	68224
Norethisterone acetate (Norethindrone acetate)	51989
Norethisterone (Norethindrone) /Ethinyl estradiol	68224 57636
Norethisterone (Norethindrone) /Mestranol	68224 72333
Norethynodrel	68235
Norgestrel	6533002
Ochratoxin A	303479
Oil Orange SS	2646175
Oral contraceptives, combined	
Oral contraceptives, sequential	
Oxadiazon	19666309
Oxadiazon	19666309
Oxazepam	604751
Oxazepam	604751
Oxydemeton methyl	301122
Oxymetholone	434071
Oxymetholone	434071
Oxytetracycline (internal use)	79572
Oxytetracycline hydrochloride (internal use)	2058460
Oxythioquinox (Chinomethionat)	2439012
Oxythioquinox (Chinomethionat)	2439012
Paclitaxel	33069624
Palygorskite fibers (> 5mm in length)	12174117
Panfuran S	794934
Paramethadione	115673
Penicillamine	52675
Pentachlorophenol	87865
Pentobarbital sodium	57330
Pentostatin	53910251
Phenacemide	63989
Phenacetin	62442
Phenazopyridine	94780
Phenazopyridine hydrochloride	136403
Phenesterin	3546109
Phenobarbital	50066
Phenolphthalein	77098
Phenoxybenzamine	59961
Phenoxybenzamine hydrochloride	63923
Phenprocoumon	435972
o-Phenylenediamine and its salts	95545
Phenyl glycidyl ether	122601
Phenylhydrazine and its salts	
o-Phenylphenate, sodium	132274
o-Phenylphenol	90437

PhiP(2-Amino-1-methyl-6-phenylimidazol[4,5-b]pyridine)	105650235
Pimozide	2062784
Pipobroman	54911
Plicamycin	18378897
Polybrominated biphenyls	
Polychlorinated biphenyls	
Polychlorinated dibenzo- <i>p</i> -dioxins	
Polychlorinated dibenzofurans	
Polygeenan	53973981
Ponceau MX	3761533
Ponceau 3R	3564098
Potassium bromate	7758012
Potassium dimethyldithiocarbamate	128030
Pravastatin sodium	81131706
Prednisolone sodium phosphate	125020
Primidone	125337
Procarbazine	671169
Procarbazine hydrochloride	366701
Procymidone	32809168
Progesterone	57830
Pronamide	23950585
Propachlor	1918167
1,3-Propane sultone	1120714
Propargite	2312358
Propargite	2312358
beta-Propiolactone	57578
Propoxur	114261
Propylene glycol mono- <i>t</i> -butyl ether	57018527
Propylene oxide	75569
Propylthiouracil	51525
Propylthiouracil	51525
Pyrimethamine	58140
Pyridine	110861
Quazepam	36735225
Quinoline and its strong acid salts	
Quizalofop-ethyl	76578148
Radionuclides	
Reserpine	50555
Residual (heavy) fuel oils	
Resmethrin	10453868
Retinol/retinyl esters	
Ribavirin	36791045
Ribavirin	36791045
Riddelliine	23246960
Rifampin	13292461
Safrole	94597
Secobarbital sodium	309433
Selenium sulfide	7446346
Sermorelin acetate	
Shale-oils	68308349
Silica, crystalline (airborne particles of respirable size)	
Sodium dimethyldithiocarbamate	128041

Sodium fluoroacetate	62748
Spironolactone	52017
Stanozolol	10418038
Sterigmatocystin	10048132
Streptomycin sulfate	3810740
Streptozotocin (streptozocin)	18883664
Strong inorganic acid mists containing sulfuric acid	
Styrene oxide	96093
Sulfallate	95067
Sulfasalazine (salicylazosulfapyridine)	599791
Sulfasalazine (salicylazosulfapyridine)	599791
Sulindac	38194502
Talc containing asbestiform fibers	
Tamoxifen and its salts	10540291
Tamoxifen citrate	54965241
Temazepam	846504
Teniposide	29767202
Terbacil	5902512
Terrazole	2593159
Testosterone and its esters	58220
Testosterone cypionate	58208
Testosterone enanthate	315377
2,3,7,8-Tetrachlorodibenzo- <i>p</i> -dioxin (TCDD)	1746016
2,3,7,8-Tetrachlorodibenzo- <i>p</i> -dioxin (TCDD)	1746016
1,1,2,2-Tetrachloroethane	79345
Tetrachloroethylene (Perchloroethylene)	127184
<i>p</i> - <i>a,a,a</i> -Tetrachlorotoluene	5216251
Tetracycline (internal use)	60548
Tetracyclines (internal use)	
Tetracycline hydrochloride (internal use)	64755
Tetrafluoroethylene	116143
Tetranitromethane	509148
Thalidomide	50351
Thioacetamide	62555
4,4'-Thiodianiline	139651
Thiodicarb	59669260
Thioguanine	154427
Thiophanate methyl	23564058
Thiouracil	141902
Thiourea	62566
Thorium dioxide	1314201
Tobramycin sulfate	49842071
Toluene	108883
Toluene diisocyanate	26471625
<i>o</i> -Toluidine	95534
<i>o</i> -Toluidine hydrochloride	636215
Toxaphene (Polychlorinated camphenes)	8001352
Treosulfan	299752
Triadimefon	43121433
Triazolam	28911015
Tributyltin methacrylate	2155706
Trichlormethine (Trimustine hydrochloride)	817094

Trichloroethylene	79016
2,4,6-Trichlorophenol	88062
1,2,3-Trichloropropane	96184
Trientine hydrochloride	38260014
Triforine	26644462
Trilostane	13647353
Trimethadione	127480
2,4,5-Trimethylaniline and its strong acid salts	
Trimethyl phosphate	512561
Trimetrexate glucuronate	82952645
Triphenyltin hydroxide	76879
Triphenyltin hydroxide	76879
Tris(1-aziridinyl)phosphine sulfide (Thiotepa)	52244
Tris(2-chloroethyl) phosphate	115968
Tris(2,3-dibromopropyl)phosphate	126727
Trp-P-1 (Tryptophan-P-1)	62450060
Trp-P-2 (Tryptophan-P-2)	62450071
Trypan blue (commercial grade)	72571
Unleaded gasoline (wholly vaporized)	
Uracil mustard	66751
Urethane (Ethyl carbamate)	51796
Urofollitropin	97048130
Valproate (Valproic acid)	99661
Vanadium pentoxide (orthorhombic crystalline form)	1314621
Vinblastine sulfate	143679
Vinclozolin	50471448
Vinclozolin	50471448
Vincristine sulfate	2068782
Vinyl bromide	593602
Vinyl chloride	75014
4-Vinylcyclohexene	100403
4-Vinyl-1-cyclohexene diepoxide (Vinyl cyclohexenedioxide)	106876
Vinyl fluoride	75025
Vinyl trichloride (1,1,2-Trichloroethane)	79005
Warfarin	81812
2,6-Xylidine (2,6-Dimethylaniline)	87627
Zileuton	111406872

## **Table B . Banned or Restricted Use Pesticides**

Agents classified as a "restricted use pesticide" by the EPA in 40 CFR 152.175 or are on the list from the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade agreement.

<b>Chemical Name</b>	<b>CAS Number</b>
acrolein	107028
aldicarb	116063
aldrin	309002
aluminum phosphide	20859738
arsenic trioxide	1327533
asbestos all forms	1332214
azinphos methyl	86500
benzene hexachloride [BHC] (lindane)	58899
binapacryl	485314
2,3,4,5Bis(2butylene)tetrahydro2furaldehyde [Repellent11]	000126158
bromoxynil butyrate	3861414
cadmium compounds	7440439
calcium arsenate	7778441
captafol	2425061
carbofuran (granular only)	1563662
carbon tetrachloride	56235
chloranil	118752
chlordane	57749
chlordecone (kepone)	143500
chlordimeform	6164983
chlorobenzilate	510156
chloromethoxypropylmercuric acetate [CPMA]	1319864
chloropicrin	76062
clonitralid	1420048
copper arsenate	146504316
daminozide/alar	1596845
DBCP	96128
DDT	50293
1,2dibromoethane ethylene dibromide EDB)	106934
dicrotophos	141662
dieldrin	60571
dinoseb and salts	88857
Di(phenylmercury)dodecenylsuccinate [PMDS]	27236653
4,6dinitroresol [DNOC]	534521
disulfoton	298044
ethoprop	13194484
ethylene dichloride (EDC)	107062
ethylene oxide	75218
endrin	72208
Phosphorothioic acid, phenyl, Oethyl O(pnitrophenyl) ester [EPN] (Santox)	2104645
ethyl hexyleneglycol [612]	94962
ethyl parathion	56382
fenamiphos	22224926
fluoroacetamide	640197
fonofos	944229

heptachlor	76448
hexachlorobenzene [HCB]	118741
lead arsenate	7784409
leptophos	21609905
lindane	58899
mercury compounds	
(mercurous chloride and mercuric chloride)	7546307
methamidophos	10265926
Methidathion	950378
Methomyl	16752775
Methyl bromide	74839
methyl parathion	298000
mevinphos	7786347
mirex	2385855
monocrotophos	6923224
nicotine	54115
nitrofen (TOK)	1836755
OMPA (octamethylpyrophosphoramidate)	152169
paraquat	1910425
parathion (ethyl)	56382
pentachlorophenol	87865
phenylmercury acetate [PMA]	62384
phenylmercuric oleate [PMO]	104609
phorate	298022
phosphamidon	13171216
picloram	1918021
potassium 2,4,5trichlorophenate [2,4,5TCP]	35471433
pyriminil [Vacor]	53558251
safrole	94597
silvex	93721
sodium arsenate	7631892
sodium arsenite	7784465
sodium cyanide	143339
sodium fluoroacetate	62748
strychnine	57249
sulfotepp	3689245
TDE (DDD)	72548
Terpene polychlorinates [Strobane]	8001501
thallium sulfate	7446186
toxaphene (chlorinated camphene)	8001352
tributyltin compounds	
2,4,5Trichlorophenoxyacetic acid [2,4,5T]	93765
vinyl chloride	75014
zinc phosphide	1314847

## Table C. Explosives

Agents classified as a 1.1 explosive by the DOT (Title 49 CFR 172.101). Note that many of these are explosive when they contain less than a specified amount of water, i.e. when they are not "wetted".

Chemical Name	CAS Number
Ammonium perchlorate (smaller than 45 micron size particles)	7790989
Ammonium picrate	131748
Barium azide	18810587
Cyclotetramethylenetetranitramine (HMX)	2691410
Cyclotrimethylenetrinitramine (RDX)	121844
Diazodinitrophenol	87310
Diethyleneglycol dinitrate	693210
Dinitroglycoluril	55510048
Dinitrophenol	25550587
Dinitroresorcinol	35860516
Dipicryl sulfide	2217063
Guanyl nitrosaminoguanyltetrazene	109273
Hexanitrodiphenylamine	35860312
Hexanitrostilbene	20062220
Hexolite (Hexotol)	121824
Lead Azide	13424469
Lead styphnate	15245440
Mannitol hexanitrate (nitromannite)	15825704
Mercury fulminate	628864
5Nitrobenzotriazol	2338127
Nitrocellulose	9004700
Nitroglycerin	55630
Nitroguanidine	556887
Nitrostarch	9056386
Nitrotriazolone	932649
Nitrourea	556898
Octolite	68610515
Octonal (octyl aldehyde)	124130
Pentaerythrite tetranitrate (Pentaerythritol tetranitrate)	78115
Pentolite	8066339
Tetranitroaniline	53014372
1HTetrazole	16681779
Trinitromcresol	602993
Trinitroaniline	26952421
Trinitroanisole	606359
Trinitrobenzene	99354
Trinitrobenzenesulfonic acid	2508192
Trinitrobenzoic acid	129668
Trinitrochlorobenzene (picryl chloride)	88880
Trinitrofluorenone	129793
Trinitronaphthalene	55810178
Trinitrophenetole	4732143
Trinitrophenol (picric acid)	88891
Trinitrophenylmethylnitramine (Tetryl)	479458

Trinitroresorcinol	82713
Trinitrotoluene (TNT)	118967
Tritonal	54413159
Urea nitrate	124470