

**PROPOSITION 65  
STATUS REPORT  
SAFE HARBOR LEVELS:**

No Significant Risk Levels for  
Carcinogens and Maximum  
Allowable Dose Levels for  
Chemicals Causing Reproductive  
Toxicity

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Reproductive and Cancer Hazard  
Assessment Section  
Office of Environmental Health Hazard  
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Agency



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## **Proposition 65 Safe Harbor Levels Development**

The Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency is the lead agency for the implementation of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65 or the Act). In that role, OEHHA has developed Proposition 65 safe harbor levels -- no significant risk levels (NSRLs) for carcinogens and maximum allowable dose levels (MADLs) for chemicals that cause reproductive toxicity. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime (70-year) exposure at the level in question. The MADL is the level at which the chemical would have no observable adverse reproductive effect assuming exposure at 1,000 times that level. The NSRLs and MADLs are promulgated in Title 22, California Code of Regulations, (CCR) Sections 12705 and 12805 respectively to assist interested parties in determining whether warnings are required for exposures to listed chemicals, and whether discharges to sources of drinking water are prohibited.

Safe harbor levels may be based on risk assessments conducted outside OEHHA, as provided for in 22 CCR 12705(b), 12705(c), and 12805. In some cases, this can expedite safe harbor development. However, it should be noted that the process of review and consideration of existing risk assessments can be a lengthy one, and will depend on the complexity of the scientific information underlying the assessment, as well as on available resources.

This document provides the status of the development and adoption of intake levels calculated for all chemicals on the Proposition 65 list. In units of micrograms per day ( $\mu\text{g}/\text{day}$ ), Part A reports NSRLs adopted in regulation for carcinogens and Part B reports MADLs adopted in regulation for chemicals that cause reproductive toxicity.

Parts C and D of this document give priority levels for development of dose response assessments for chemicals that cause cancer and reproductive toxicity, respectively. Interested parties are invited to recommend changes in priority levels. OEHHA retains the right to change priorities in response to the nature and availability of scientific information, and resources available, and requests from the public and the Attorney General's office.

Parts C and D also give draft levels, some of which have been available since the early 1990's and others of which have been updated recently. OEHHA will continue to review the basis for draft numbers and update analyses as needed, before proposing or finalizing levels for formal adoption in regulation.

This status report will be updated on a regular basis.

## A. No Significant Risk Levels (NSRLs) Adopted in Regulation for Carcinogens

The table below lists NSRLs for Proposition 65 carcinogens in regulation (22 CCR §12705 and §12709). These levels are intended to provide “safe harbors” for persons subject to the Act, and do not preclude the use of alternative levels that can be demonstrated by their users as being scientifically valid.

A three-tiered procedure for development of NSRLs is currently in place. NSRLs may be based on a *de novo* dose response assessment conducted or reviewed by OEHHA (22 CCR §12705(b)), an assessment conducted by another state or federal agency (22 CCR §12705(c)), or an expedited process conducted by OEHHA (22 CCR §12705(d)). The last column of the table below indicates which of these processes was used to develop the NSRL for each chemical. NSRLs represent the daily intake level calculated to result in a cancer risk of one excess case of cancer in 100,000 individuals exposed over a 70-year lifetime.

NSRLs for chemicals in underline have been adopted since the last Status Report. As chemicals are removed from the Proposition 65 list, the regulatory process to remove the safe harbor level from regulation will be initiated.

Carcinogen	Level (µg/day)	22 CCR Section
A-alpha-C (2-Amino-9H-pyrido[2,3-b]indole)	2	12705(d)
Acetaldehyde	90 (inhalation)	12705(c)
Acetamide	10	12705(d)
2-Acetylaminofluorene	0.2	12705(d)
Acrylamide	0.2	12705(c)
Acrylonitrile	0.7	12705(b)
Actinomycin D	0.00008	12705(d)
AF-2; [2-(2-furyl)-3(5-nitro-2-furyl)acrylamide]	3	12705(d)
Aldrin	0.04	12705(b)
2-Aminoanthraquinone	20	12705(d)
o-Aminoazotoluene	0.2	12705(d)
4-Aminobiphenyl	0.03	12705(d)
3-Amino-9-ethylcarbazole hydrochloride	9	12705(d)
1-Amino-2-methylanthraquinone	5	12705(d)
2-Amino-5-(5-nitro-2-furyl)-1,3,4-thiadiazole	0.04	12705(d)
Amitrole	0.7	12705(d)
Aniline	100	12705(c)
o-Anisidine	5	12705(d)
o-Anisidine hydrochloride	7	12705(d)
Aramite	20	12705(d)
Arsenic	0.06 (inhalation)	12705(b)
	10 (except inhalation)	12709
Asbestos	100 fibers/day (inhalation)	12705(b)
	NSRL for fibers $\geq$ 5 micrometers (mm) long and 0.3 wide, with a length/width ratio $\geq$ 3:1 as measured by phase contrast microscopy.	
Auramine	0.8	12705(d)
Azaserine	0.06	12705(d)
Azathioprine	0.4	12705(d)
Azobenzene	6	12705(c)

Carcinogen	Level (µg/day)	22 CCR Section
<b>Benz[a]anthracene</b>	<b>0.033 (oral)</b>	<b>12705(b)</b>
<b>Benzene</b>	<b>6.4 (oral)</b>	<b>12705(b)</b>
	<b>13 (inhalation)</b>	<b>12705(b)</b>
Benzidine	0.001	12705(b)
<b>Benzo[b]fluoranthene</b>	<b>0.096 (oral)</b>	<b>12705(b)</b>
<b>Benzo[j]fluoranthene</b>	<b>0.11 (oral)</b>	<b>12705(b)</b>
Benzofuran	1.1	12705(b)
Benzo[a]pyrene	0.06	12705(c)
Benzyl chloride	4	12705(c)
Benzyl violet 4B	30	12705(d)
Beryllium	0.1	12709
Beryllium oxide	0.1	12705(c)
Beryllium sulfate	0.0002	12705(c)
Bis(2-chloroethyl)ether	0.3	12705(b)
Bis(chloromethyl)ether	0.02	12705(b)
Bromodichloromethane	5	12705(c)
<b>Bromoform</b>	<b>64</b>	<b>12705(b)</b>
1,3-Butadiene	0.4	12705(c)
Butylated hydroxyanisole	4000	12705(b)
beta-Butyrolactone	0.7	12705(d)
Cadmium	0.05 (inhalation)	12705(b)
Captafol	5	12705(d)
Captan	300	12705(d)
Carbazole	4.1	12705(d)
Carbon tetrachloride	5	12705(b)
N-Carboxymethyl-N-nitrosourea	0.70	12705(b)
Chlorambucil	0.002	12705(d)
Chlordane	0.5	12705(c)
Chlordecone (Kepone)	0.04	12705(d)
Chlorendic acid	8	12705(d)
Chlorinated paraffins (Ave. chain length C12; approx. 60% chlorine by weight)	8	12705(d)
Chloroethane (Ethyl chloride)	150	12705(b)
Chloroform	20 (oral)	12705(c)
	40 (inhalation)	12705(c)
Chloromethyl methyl ether (technical grade)	0.3	12705(d)
3-Chloro-2-methylpropene	5	12705(d)
4-Chloro-ortho-phenylenediamine	40	12705(d)
Chlorothalonil	200	12705(d)
p-Chloro-ortho-toluidine	3	12705(d)
p-Chloro-o-toluidine, hydrochloride	3.3	12705(d)
Chlorozotocin	0.003	12705(d)
Chromium (hexavalent)	0.001 (inhalation)	12705(b)
<b>Chrysene</b>	<b>0.35 (oral)</b>	<b>12705(b)</b>
C.I. Basic Red 9 monohydrochloride	3	12705(d)
Cinnamyl anthranilate	200	12705(d)
Coke oven emissions	0.3	12705(c)

Carcinogen	Level (µg/day)	22 CCR Section
p-Cresidine	5	12705(d)
Cupferron	3	12705(d)
Cyclophosphamide (anhydrous)	1	12705(d)
Cyclophosphamide (hydrated)	1	12705(d)
D&C Red No. 9	100	12705(d)
Dacarbazine	0.01	12705(d)
Daminozide	40	12705(d)
Dantron (Chrysazin; 1,8-Dihydroxyanthraquinone)	9	12705(d)
DDT, DDE, DDD (in combination)	2	12705(b)
DDVP (Dichlorvos)	2	12705(c)
2,4-Diaminoanisole	30	12705(d)
2,4-Diaminoanisole sulfate	50	12705(d)
4,4'-Diaminodiphenyl ether (4,4'-Oxydianiline)	5	12705(d)
2,4-Diaminotoluene	0.2	12705(d)
Dibenz[a,h]anthracene	0.2	12705(d)
<b>7H-Dibenzo[c,g]carbazole</b>	<b>0.0030 (oral)</b>	<b>12705(b)</b>
<b>Dibenzo[a,h]pyrene</b>	<b>0.0054 (oral)</b>	<b>12705(b)</b>
<b>Dibenzo[a,i]pyrene</b>	<b>0.0050 (oral)</b>	<b>12705(b)</b>
1,2-Dibromo-3-chloropropane	0.1	12705(b)
p-Dichlorobenzene	20	12705(b)
3,3'-Dichlorobenzidine	0.6	12705(b)
1,1-Dichloroethane	100	12705(d)
1,2-Dichloroethane (Ethylene dichloride)	10	12705(b)
Dichloromethane (Methylene chloride)	200 (inhalation)	12705(b)
	50	12705(c)
Dieldrin	0.04	12705(b)
Di(2-ethylhexyl)phthalate (DEHP)	310	12705(b)
Diethylstilbesterol	0.002	12705(d)
Diglycidyl resorcinol ether (DGRE)	0.4	12705(d)
Dihydrosafrole	20	12705(d)
3,3'-Dimethoxybenzidine (o-Dianisidine)	0.15	12705(b)
3,3'-Dimethoxybenzidine dihydrochloride	0.19	12705(b)
4-Dimethylaminoazobenzene	0.2	12705(d)
trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	2	12705(d)
7,12-Dimethylbenz(a)anthracene	0.003	12705(d)
3,3'-Dimethylbenzidine (o-Toluidine)	0.044	12705(b)
3,3'-Dimethylbenzidine dihydrochloride	0.059	12705(b)
Dimethylcarbamoyl chloride	0.05	12705(d)
1,2-Dimethylhydrazine	0.001	12705(d)
Dimethylvinylchloride	20	12705(d)
2,4-Dinitrotoluene	2	12705(c)
1,4-Dioxane	30	12705(b)
Direct Black 38 (technical grade)	0.09	12705(d)
Direct Blue 6 (technical grade)	0.09	12705(d)
Direct Brown 95 (technical grade)	0.1	12705(d)
Disperse Blue 1	200	12705(d)

Carcinogen	Level (µg/day)	22 CCR Section
Epichlorohydrin	9	12705(b)
Estradiol 17b	0.02	12705(d)
Ethyl-4,4'-dichlorobenzilate (Chlorobenzilate)	7	12705(d)
Ethylene dibromide	0.2 (oral)	12705(b)
	3 (inhalation)	12705(b)
Ethylene oxide	2	12705(b)
Ethylene thiourea	20	12705(d)
Ethyleneimine	0.01	12705(d)
Folpet	200	12705(c)
Formaldehyde (gas)	40	12705(c)
2-(2-Formylhydrazino)-4-(5-nitro-2-furyl)thiazole	0.3	12705(d)
Furmecyclox	20	12705(c)
Glu-P-1 (2-Amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole)	0.1	12705(d)
Glu-P-2 (2-Aminodipyrido[1,2-a:3',2'-d]-imidazole)	0.5	12705(d)
Gyromitrin (Acetaldehyde methylformylhydrazone)	0.07	12705(d)
HC Blue 1	10	12705(d)
Heptachlor	0.2	12705(c)
Heptachlor epoxide	0.08	12705(c)
Hexachlorobenzene	0.4	12705(b)
Hexachlorocyclohexane		
alpha isomer	0.3	12705(c)
beta isomer	0.5	12705(c)
gamma isomer	0.6	12705(c)
technical grade	0.2	12705(b)
Hexachlorodibenzodioxin	0.0002	12705(b)
Hexachloroethane	20	12705(d)
Hydrazine	0.04	12705(c)
Hydrazine sulfate	0.2	12705(c)
Hydrazobenzene (1,2-Diphenylhydrazine)	0.8	12705(d)
IQ (2-Amino-3-methylimidazo[4,5-f]quinoline)	0.5	12705(d)
Isobutyl nitrite	7.4	12705(d)
Lasiocarpine	0.09	12705(d)
Lead	15 (oral)	12705(b)
Lead acetate	23 (oral)	12705(b)
Lead phosphate	58 (oral)	12705(b)
Lead subacetate	41 (oral)	12705(b)
Me-A-alpha-C (2-Amino-3-methyl-9H-pyrido[2,3-b]indole)	0.6	12705(d)
MeIQ (2-amino-3,4-dimethylimidazo-[4,5-f]quinoline)	0.46	12705(d)
MeIQx (2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline)	0.41	12705(d)
Melphalan	0.005	12705(d)
2-Methylaziridine (Propyleneimine)	0.028	12705(b)
Methyl carbamate	160	12705(d)

Carcinogen	Level (µg/day)	22 CCR Section
3-Methylcholanthrene	0.03	12705(d)
<b>5-Methylchrysene</b>	<b>0.0084 (oral)</b>	<b>12705(b)</b>
4,4'-Methylene bis(2-chloroaniline)	0.5	12705(d)
4,4'-Methylene bis(N,N-dimethyl)benzeneamine	20	12705(c)
4,4'-Methylene bis(2-methylaniline)	0.8	12705(d)
4,4'-Methylenedianiline	0.4	12705(d)
4,4'-Methylenedianiline dihydrochloride	0.6	12705(d)
Methylhydrazine	0.058 (oral)	12705(b)
	0.090 (inhalation)	12705(b)
Methylhydrazine sulfate	0.18	12705(b)
Methyl methanesulfonate	7	12705(d)
2-Methyl-1-nitroanthraquinone (of uncertain purity)	0.2	12705(d)
N-Methyl-N'-nitro-N-nitrosoguanidine	0.08	12705(d)
Methylthiouracil	2	12705(d)
Michler's ketone	0.8	12705(d)
Mirex	0.04	12705(d)
Mitomycin C	0.00009	12705(d)
Monocrotaline	0.07	12705(d)
5-(Morpholinomethyl)-3-[(5-nitrofurfurylidene)-amino]-2-oxazolidinone	0.18	12705(b)
MX (3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone)	0.11	12705(b)
Nalidixic acid	28	12705(d)
2-Naphthylamine	0.4	12705(d)
Nickel refinery dust	0.8	12705(c)
Nickel subsulfide	0.4	12705(c)
Nitrilotriacetic acid	100	12705(d)
Nitrilotriacetic acid, trisodium salt monohydrate	70	12705(d)
5-Nitroacenaphthene	6	12705(d)
5-Nitro-o-anisidine	10	12705(d)
Nitrofen (technical grade)	9	12705(d)
Nitrofurazone	0.5	12705(d)
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	0.4	12705(d)
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	0.5	12705(d)
N-Nitrosodi-n-butylamine	0.06	12705(b)
N-Nitrosodiethanolamine	0.3	12705(c)
N-Nitrosodiethylamine	0.02	12705(b)
N-Nitrosodimethylamine	0.04	12705(b)
p-Nitrosodiphenylamine	30	12705(d)
N-Nitrosodiphenylamine	80	12705(b)
N-Nitrosodi-n-propylamine	0.1	12705(b)
N-Nitroso-N-ethylurea	0.03	12705(b)
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone	0.014	12705(d)
N-Nitrosomethylethylamine	0.03	12705(c)
N-Nitroso-N-methylurea	0.006	12705(b)
N-Nitroso-N-methylurethane	0.006	12705(d)
N-Nitrosomorpholine	0.1	12705(d)
N-Nitrosornicotine	0.5	12705(d)
N-Nitrosopiperidine	0.07	12705(d)
N-Nitrosopyrrolidine	0.3	12705(c)

Carcinogen	Level (µg/day)	22 CCR Section
Pentachlorophenol	40	12705(c)
Phenacetin	300	12705(d)
Phenazopyridine	4	12705(d)
Phenazopyridine hydrochloride	5	12705(d)
Phenesterin	0.005	12705(d)
Phenobarbital	2	12705(d)
Phenoxybenzamine	0.2	12705(d)
Phenoxybenzamine hydrochloride	0.3	12705(d)
<i>o</i> -Phenylenediamine	26	12705(d)
<i>o</i> -Phenylenediamine dihydrochloride	44	12705(d)
Phenyl glycidyl ether	5.0	12705(b)
Phenylhydrazine	1.0	12705(b)
Phenylhydrazine hydrochloride	1.4	12705(b)
<i>o</i> -Phenylphenate, sodium	200	12705(d)
Polybrominated biphenyls	0.02	12705(b)
Polychlorinated biphenyls	0.09	12705(c)
Polygeenan	1200	12705(b)
Ponceau MX	200	12705(d)
Ponceau 3R	40	12705(d)
Potassium bromate	1	12705(d)
Procarbazine	0.05	12705(d)
Procarbazine hydrochloride	0.06	12705(d)
1,3-Propane sultone	0.3	12705(d)
beta-Propiolactone	0.05	12705(d)
Propylthiouracil	0.7	12705(d)
Reserpine	0.06	12705(d)
Safrole	3	12705(d)
Sterigmatocystin	0.02	12705(d)
Streptozotocin	0.006	12705(d)
Styrene oxide	4	12705(d)
Sulfallate	4	12705(d)
Tetrachlorodibenzo-p-dioxin	0.000005	12705(b)
1,1,2,2-Tetrachloroethane	3	12705(d)
Tetrachloroethylene	14	12705(c)
Tetranitromethane	0.059	12705(b)
Thioacetamide	0.1	12705(d)
4,4'-Thiodianiline	0.05	12705(d)
Thiourea	10	12705(d)
Toluene diisocyanate	20	12705(d)
ortho-Toluidine	4	12705(d)
ortho-Toluidine hydrochloride	5	12705(d)
Toxaphene	0.6	12705(b)
Trichloroethylene	50 (oral) 80 (inhalation)	12705(b) 12705(b)
2,4,6-Trichlorophenol	10	12705(b)
Trimethyl phosphate	24	12705(d)

Carcinogen	Level (µg/day)	22 CCR Section
Tris(1-aziridiny)phosphine sulfide (Thiotepa)	0.06	12705(d)
Tris(2,3-dibromopropyl)phosphate	0.3	12705(d)
Trp-P-1 (Tryptophan-P-1)	0.03	12705(d)
Trp-P-2 (Tryptophan-P-2)	0.2	12705(d)
Urethane (Ethyl carbamate)	0.7	12705(b)
Vinyl chloride	3	12705(b)
Vinyl trichloride (1,1,2-Trichloroethane)	10	12705(d)
2,6-Xylidine	110	12705(b)

## B. Maximum Allowable Dose Levels (MADLs) Adopted in Regulation for Chemicals Causing Reproductive Toxicity

The following table is a compilation of MADLs in regulation (22 CCR §12805) for Proposition 65 chemicals that cause reproductive toxicity. These levels represent the no observable effect level (NOEL) for the chemical, divided by 1,000. NOELs are set in accordance with procedures specified in 22 CCR §12803. MADLs for chemicals in underline have been adopted since the last Status Report.

Chemical Listed as Causing Reproductive Toxicity	Level (µg/day) <sup>a</sup>
Benzene	24 (oral) 49 (inhalation)
Cadmium	4.1 (oral)
2,4-DB (2,4-dichlorophenoxybutyric acid)	910
<i>m</i> -Dinitrobenzene	38
Ethylene oxide	20
Hydramethylnon	120 (oral)
Lead	0.5
Linuron	460
N-Methylpyrrolidone	3200 (inhalation) 17000(dermal)
Quizalofop-ethyl	590
Toluene	7000 <sup>b</sup>

<sup>a</sup>Where a source or product results in exposures by multiple routes, the total exposure must be considered. For example, the MADL for benzene is exceeded when the absorbed dose exceeds 24 µg/day. If only inhalation and oral exposure occurs, the benzene MADL is exceeded when:

$$(\text{oral dose} \div 24 \text{ } \mu\text{g/day}) + (\text{inhalation dose} \div 24 \text{ } \mu\text{g/day}) > 1.0$$

<sup>b</sup> Level represents absorbed dose (rounded from 6,525 µg/day). Since 100% of ingested toluene is absorbed, oral dose is equivalent to administered dose. It is assumed that roughly 50% of the dose administered by the inhalation route is absorbed. Therefore the MADL for inhaled toluene is 13,000 µg/day (rounded from 13,050 µg/day), corresponding to an absorbed dose of 6,525 µg/day.

## C. Priority List for the Development of NSRLs for Proposition 65 Carcinogens

OEHHA has developed the following priority list, which classifies into four priorities carcinogens for which dose-response assessments have not been completed. Priority levels reflect the availability and quality of scientific data for dose-response assessments, potential for exposure, resources available to perform the assessment, commitments made in settlement of the case of AFL-CIO v. Deukmejian (Sacramento Superior Court No. 3481295) and input from the public and Attorney General's office. OEHHA anticipates proposing NSRLs for the majority of chemicals in the first priority group within the next two years, and for second priority chemicals within the next two to four years. It is unlikely that NSRLs for third and fourth priority chemicals would be released within the next three years.

Any interested party may submit recommendations to OEHHA for revising the priority assignment for any of the chemicals listed. Recommendations should be accompanied by appropriate documentation supporting the alternative priority assignment suggested. OEHHA expects changes in priorities resulting from the availability of scientific information and resources, and requests from the public and Attorney General's office.

A three-tiered procedure for development of NSRLs is currently in place. NSRLs may be based on a *de novo* dose response assessment conducted or reviewed by OEHHA (22 CCR §12705(b)), an assessment conducted by another state or federal agency (22 CCR §12705(c)), or an expedited process conducted by OEHHA (22 CCR §12705(d)). The table below lists draft NSRLs and their year of release, along with the subsection of 12705 indicating the procedure used to develop the value. OEHHA will review the basis for draft numbers and update analyses as needed, before proposing or finalizing levels for formal adoption in regulation. Chemicals in bold font have been added to the Proposition 65 list or changed in priority status since the last Status Report.

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### 1. First Priority for NSRL Development

Acetochlor	(1992 draft NSRL: 70 µg/day [12705(c)])
Acifluorfen	(1992 draft NSRL: 20 µg/day [12705(c)])
Alachlor	(1992 draft NSRL: 9 µg/day [12705(c)])
1-Amino-2,4-dibromoanthraquinone	
Aniline hydrochloride	
Antimony oxide	
Azacitidine	
Benzo[k]fluoranthene	
Benzotrichloride	(1993 draft oral NSRL: 0.05 µg/day [12705(c)]) (1993 draft inhalation NSRL: 0.0002 µg/day [12705(d)])
2,2-Bis(bromomethyl)-1,3-propanediol	
Bromate	
Chlordimeform	(1992 draft NSRL: 0.5 µg/day [12705(c)])
<i>p</i> -Chloroaniline	
<i>p</i> -Chloroaniline hydrochloride	
C. I. Acid Red 114	
C.I. Direct Blue 15	
C.I. Direct Blue 218	
C.I. Solvent Yellow 14	

Dibenz[a,h]acridine	
Dibenz[a,j]acridine	
Dibenzo[a,e]pyrene	
Dibenzo[a,l]pyrene	
3,3'-Dichlorobenzidine dihydrochloride	
<b>1,2-Dichloropropane</b>	<b>(2004 draft NSRL: 9.7 µg/day [12705(b)])</b>
1,3-Dichloropropene	(1993 draft oral NSRL: 4 µg/day [12705(b)]) (1993 draft inhalation NSRL: 20 µg/day [12705(c)])
Diepoxybutane	
Diethyl sulfate	(1993 draft NSRL: 0.7 µg/day [12705(b)])
Dimethyl sulfate	(1993 draft NSRL: 0.05 µg/day [12705(b)])
1,1-Dimethylhydrazine (UDMH)	(1992 draft NSRL: 0.3 µg/day [12705(b)])
1,6-Dinitropyrene	(1993 draft NSRL: 0.02 µg/day [12705(b)])
1,8-Dinitropyrene	(1993 draft NSRL: 0.01 µg/day [12705(b)])
2,6-Dinitrotoluene	
Estragole	
<b>Ethylbenzene</b>	
Ethinylestradiol	
Furan	
Glycidol	(1992 draft NSRL: 0.4 µg/day [12705(b)])
Griseofulvin	(1992 draft NSRL: 50 µg/day [12705(b)])
Hexamethylphosphoramide	(1992 draft NSRL: 0.01 µg/day [12705(b)])
Indeno[1,2,3-cd]pyrene	
Isoprene	
Lactofen	(1992 draft NSRL: 4 µg/day [12705(c)])
Methyleugenol	
Methylmercury compounds*	
N-Methylolacrylamide	(1992 draft NSRL: 2 µg/day [12705(b)])
Metronidazole	(1992 draft NSRL: 4 µg/day [12705(b)])
Nafenopin	
<b>Naphthalene</b>	<b>(2004 draft NSRL: 5.8 µg/day [12705(b)])</b>
Nickel carbonyl	
o-Nitroanisole	
Nitrobenzene	
4-Nitrobiphenyl	
6-Nitrochrysene	(1993 draft NSRL: 0.002 µg/day [12705(b)])
2-Nitrofluorene	(1993 draft NSRL: 0.09 µg/day [12705(b)])
2-Nitropropane	(1993 draft inhalation NSRL: 30 µg/day [12705(b)])
1-Nitropyrene	(1993 draft NSRL: 0.6 µg/day [12705(b)])
4-Nitropyrene	(1993 draft NSRL: 0.03 µg/day [12705(b)])
N-Nitrosomethylvinylamine	(1993 draft NSRL: 0.004 µg/day [12705(b)])
N-Nitrososarcosine	(1993 draft NSRL: 5 µg/day [12705(b)])

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\* For explanation of priority levels see discussion above.

Ochratoxin A (1992 draft NSRL: 0.03 µg/day [12705(b)])  
 Oxazepam

*o*-Phenylphenol  
 PhiP  
 Progesterone  
**Propylene glycol mono-*t*-butyl ether**  
 Pronamide  
 Pyridine

Selenium sulfide

1,2,3-Trichloropropane  
 Tris(2-chloroethyl)phosphate

Vinyl bromide (1992 draft oral NSRL: 1 µg/day [12705(b)])  
 (1992 draft inhalation NSRL: 4 µg/day [12705(b)])

4-Vinylcyclohexene

First priority for changes to NSRLs currently in regulation:

Acrylamide  
 Chromium (VI)  
 Ethylene thiourea  
*o*-Phenylphenate, sodium  
 Pentachlorophenol  
 Safrole

2. Second Priority for NSRL Development

Aflatoxins (1992 draft NSRL: 0.02 µg/day [12705(b)])  
*p*-Aminoazobenzene  
 Bis(2-chloro-1-methylethyl)ether, technical grade  
 Bromoethane  
 Cacodylic acid  
 Catechol  
 Ceramic fibers (airborne particles of respirable size)  
 1-Chloro-4-nitrobenzene  
 Chloroprene  
 5-Chloro-*o*-toluidine and its strong acid salts  
 Cobalt metal powder  
 Cobalt [II] oxide  
 Cobalt sulfate heptahydrate  
 Diaminotoluene (mixed)  
 2,3-Dibromo-1-propanol  
 Dichloroacetic acid  
 1,4-Dichloro-2-butene  
 Diesel engine exhaust  
 Di-*n*-propyl isocinchomeronate (MGK Repellent 326)  
 Diuron  
 Ethoprop  
 Fenoxycarb  
**Fumonisin B<sub>1</sub>**  
 Indium phosphide

Iprodione  
 Isoxaflutole  
 Isosafrole  
 Metham sodium  
 Methyl iodide  
 1-Naphthylamine  
 Nickel and **nickel compounds**  
 Nitromethane  
*o*-Nitrotoluene  
 Oxadiazon  
 Oxythioquinox  
 Polychlorinated dibenzo-p-dioxins  
 Primidone  
 Propachlor  
 Quinoline and its strong acid salts  
 Radionuclides  
 Salicylazosulfapyridine  
 Silica, crystalline (airborne particles of respirable size)  
 Testosterone and its esters  
*p*-a,a,a-Tetrachlorotoluene  
 Tetrafluoroethylene  
**Thiouracil**  
 2,4,5-Trimethylaniline and its strong acid salts  
 Triphenyltin hydroxide  
 Trypan blue (commercial grade)  
 4-Vinyl-1-cyclohexene diepoxide

3. Third Priority for NSRL Development

Adriamycin (Doxorubicin hydrochloride)  
 Benzidine-based dyes  
 N,N-Bis(2-chloroethyl)-2-naphthylamine  
 Bischloroethyl nitrosourea (BCNU) (Carmustine)  
 1,4-Butanediol dimethanesulfonate (Busulfan)  
 Carbon black (airborne, unbound particles of respirable size)  
 Chloramphenicol  
 1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU)  
 1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea  
 Chlorotrianisene  
 Ciclosporin (Cyclosporin A; Cyclosporine)  
 Cidofovir  
 Cisplatin  
 Clofibrate  
 Daunomycin  
 N,N'-Diacetylbenzidine  
 3,3'-Dichloro-4,4'-diaminodiphenyl ether  
 Dienestrol  
 1,2-Diethylhydrazine  
 Diisopropyl sulfate  
 2,4-/2,6-Dinitrotoluene mixture  
 Diphenylhydantoin (Phenytoin)  
 Diphenylhydantoin (Phenytoin), sodium salt  
**3,3'-Dimethoxybenzidine-based dyes metabolized to 3,3'-dimethoxybenzidine**  
**3,3'-Dimethylbenzidine-based dyes metabolized to 3,3'-dimethylbenzidine**

Estrone  
 Estropipate  
 Ethyl acrylate  
 Furazolidone  
 Fusarin C  
 Ganciclovir sodium  
 Gasoline engine exhaust (condensates/extracts)  
 Gemfibrozil  
 Glasswool fibers (airborne particles of respirable size)  
 Glycidaldehyde  
 Mancozeb  
 Maneb  
 Medroxyprogesterone acetate  
 Merphalan  
 Mestranol  
 Metiram  
 Mustard Gas  
 Niridazole  
 Nitrogen mustard (Mechlorethamine)  
 Nitrogen mustard hydrochloride (Mechlorethamine HCl)  
 Norethisterone (Norethindrone)  
 Oxymetholone  
 Panfuran S  
 Polychlorinated dibenzofurans  
 Procymidone  
 Propargite  
 Propylene oxide (1991 draft oral NSRL: 3 µg/day [12705(c)])  
 (1991 draft inhalation NSRL: 60 µg/day [12705(c)])  
 Spironolactone  
 Stanozolol  
 Strong inorganic acid mists containing sulfuric acid  
 Tamoxifen and its salts  
 Terrazole  
 Thiodicarb  
 Thorium dioxide  
 Treosulfan  
 Trichlormethine (Trimustine hydrochloride)  
 Uracil mustard  
 Vinclozolin  
 Vinyl fluoride  
 Zileuton

4. Fourth Priority for NSRL Development

Alcoholic beverages  
 2-Aminofluorene  
 4-Amino-2-nitrophenol  
 Analgesic mixtures containing phenacetin  
 Betel quid with tobacco  
 Bitumens, extracts of steam-refined  
 Bracken fern  
 Caffeic acid  
 Carbon-black extracts  
 Certain combined chemotherapy for lymphomas

Citrus Red No. 2  
Conjugated estrogens  
Creosotes  
Cycasin  
Cytembena  
D&C Orange No. 17  
D&C Red No. 8  
D&C Red No. 19  
3,7-Dinitrofluoranthene  
3,9-Dinitrofluoranthene  
Erionite  
Ethyl methanesulfonate  
Iron dextran complex  
Lynestrenol  
8-Methoxypsoralen with ultraviolet A therapy  
5-Methoxypsoralen with ultraviolet A therapy  
Methylazoxymethanol  
Methylazoxymethanol acetate  
Nitrogen mustard N-oxide  
Nitrogen mustard N-oxide hydrochloride  
3-(N-Nitrosomethylamino)propionitrile  
Norethynodrel  
Oil Orange SS  
Oral contraceptives, combined  
Oral contraceptives, sequential  
Palygorskite fibers  
Phenolphthalein  
Residual (heavy) fuel oils  
Shale-oils  
Soots, tars, and mineral oils  
Talc containing asbestiform fibers  
Tobacco, oral use of smokeless products  
Tobacco smoke  
Tris(aziridinyl)-para-benzoquinone (Triaziquone)  
Unleaded gasoline (wholly vaporized)

## D. Priority List for the Development of MADLs for Chemicals Causing Reproductive Toxicity

OEHHA has developed the following priority list, which divides chemicals causing reproductive toxicity for which dose-response assessments have not been completed into three priorities. Priority levels reflect the availability and quality of scientific data for dose-response assessments, potential for exposure, resources available to perform the assessment, and input from the public and the Attorney General's office. OEHHA anticipates proposing MADLs for the majority of chemicals in the first priority group within the next two years, and for several chemicals in the second priority within the next two to four years. It is unlikely that MADLs for chemicals in the third priority group would be released within the next three years.

Any interested party may submit recommendations to OEHHA on revising the priority assignment for any of the chemicals listed. Recommendations should be accompanied by appropriate documentation supporting the alternative priority assignment suggested. OEHHA expects changes in priorities resulting from the availability of scientific information and resources and requests from the public and Attorney General's office.

Also given below are draft levels available and year of release. OEHHA will review the basis for draft numbers and update analyses as needed, before proposing or finalizing levels for formal adoption in regulation. Chemicals in bold font have been added to the Proposition 65 list or changed in priority status since the last Status Report.

### 1. First Priority for MADL Development

Arsenic (inorganic oxides)	(2003 draft oral MADL: 0.10 µg/day)
Carbon disulfide	(1994 draft oral MADL: 600 µg/day)
	(1994 draft inhalation MADL: 1000 µg/day)
<b>1,2-Dibromo-3-chloropropane (DBCP)</b>	<b>(2004 draft MADL: inhalation 4.3 µg/day; oral 3.1µg/day)</b>
<b>Di (2-ethylhexyl) phthalate</b>	
Ethylene glycol monoethyl ether	
<b>Ethylene glycol monomethyl ether</b>	<b>(2004 draft oral MADL: 63 µg/day)</b>
Ethylene glycol monoethyl ether acetate	
<b>Ethylene glycol monomethyl ether acetate</b>	<b>(2004 draft oral MADL: 98 µg/day)</b>
Mercury and mercury compounds*	
Metham sodium	
<b>Methyl bromide as a structural fumigant</b>	<b>(2004 draft inhalation MADL: 810 µg/day)</b>
Methyl mercury*	(1994 draft MADL: 0.3 µg/day)
Nicotine	
<b>Thiophanate-methyl</b>	<b>(2004 draft oral MADL: 600 µg/day)</b>
Triphenyl tin hydroxide	
Vinclozolin	

### 2. Second Priority for MADL Development

Amitraz  
Bromacil lithium salt  
Bromoxynil  
Bromoxynil octanoate  
**1,3-Butadiene**

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\* For explanation of priority levels see discussion above.

Chinomethionat (Oxythioquinox)  
 Chlorsulfuron  
 Cocaine  
 Cycloate  
 Dichlorophene  
 Diclofop methyl  
**Disodium cyanodithiomidocarbonate** (2004 draft oral MADL: 56 µg/day) [170 µg/day  
 for a 32% pesticidal formulation]  
**Ethyl dipropylthiocarbamate** (2004 draft oral and inhalation MADL:  
 700 µg/day; draft dermal MADL: 6700 µg/day)  
 Ethylene thiourea  
 Fenoxaprop ethyl  
 Fluazifop butyl  
 Fluvalinate  
 Methazole  
 Metiram  
 Myclobutanil  
 Nabam  
 Nitrapyrin  
 Oxadiazon  
 Oxydemeton methyl  
 Potassium dimethyldithiocarbamate  
 Propargite  
 Resmethrin  
**Sodium dimethyldithiocarbamate** (2004 draft oral MADL: 23 µg/day) [58 µg/day  
 for a 40% pesticidal formulation]  
 Sodium fluoroacetate  
 Terbacil  
 2,3,7,8-Tetrachlorodibenzo-para-dioxin (TCDD)  
 Triadimefon  
 Tributyltin methacrylate  
 Triforine

3. Third Priority for MADL Development

Acetazolamide  
 Acetohydroxamic acid  
 Actinomycin D  
 All-trans retinoic acid  
 Alprazolam  
 Altretamine  
 Amantadine hydrochloride  
 Amikacin sulfate  
 Aminoglutethimide  
 Aminoglycosides  
 Aminopterin  
 Amiodarone hydrochloride  
 Amoxapine  
 Anabolic steroids  
 Angiotensin converting enzyme (ACE) inhibitors  
 Anisindione  
 Aspirin  
 Atenolol  
 Auranofin  
 Azathioprine

Barbiturates  
Beclomethasone dipropionate  
Benomyl  
Benzphetamine hydrochloride  
Benzodiazepines  
Bischloroethyl nitrosourea (BCNU) (Carmustine)  
Butabarbital sodium  
1,4-Butanediol dimethanesulfonate (Busulfan)  
Carbamazepine  
Carbon monoxide  
Carboplatin  
Chenodiol  
Chlorambucil  
Chlorcyclizine hydrochloride  
Chlordecone (Kepone)  
Chlordiazepoxide  
Chlordiazepoxide hydrochloride  
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)  
Cidofovir  
Cladribine  
Clarithromycin  
Clobetasol propionate  
Clomiphene citrate  
Clorazepate dipotassium  
Codeine phosphate  
Colchicine  
Conjugated estrogens  
Cyanazine  
Cycloheximide  
Cyclophosphamide (anhydrous)  
Cyclophosphamide (hydrated)  
Cyhexatin  
Cytarabine  
Dacarbazine  
Danazol  
Daunorubicin hydrochloride  
*o,p'*-DDT  
*p,p'*-DDT  
Demeclocycline hydrochloride (internal use)  
Diazepam  
Diazoxide  
Dichlophenamide  
Dicumarol  
Diethylstilbestrol (DES)  
Diflunisal  
Dihydroergotamine mesylate  
Diltiazem hydrochloride  
*o*-Dinitrobenzene  
*p*-Dinitrobenzene  
2,4-Dinitrotoluene  
2,6-Dinitrotoluene  
Dinitrotoluene (technical grade)  
Dinocap  
Dinoseb

Diphenylhydantoin (Phenytoin)  
Doxorubicin hydrochloride  
Doxycycline (internal use)  
Doxycycline calcium (internal use)  
Doxycycline hyclate (internal use)  
Doxycycline monohydrate (internal use)  
Endrin  
Epichlorohydrin  
Ergotamine tartrate  
Etoposide  
Ethinamate  
Ethionamide  
Ethyl alcohol in alcoholic beverages  
Ethylene dibromide  
Etodolac  
Etoposide  
Etretinate  
Filgrastim  
Flunisolide  
Fluorouracil  
Fluoxymesterone  
Flurazepam hydrochloride  
Flurbiprofen  
Flutamide  
Fluticasone propionate  
Ganciclovir sodium  
Gemfibrozil  
Goserelin acetate  
Halazepam  
Halobetasol propionate  
Haloperidol  
Halothane  
Heptachlor  
Hexachlorobenzene  
Hexamethylphosphoramide  
Histrelin acetate  
Hydroxyurea  
Idarubicin hydrochloride  
Ifosfamide  
Iodine-131  
Isotretinoin  
Leuprolide acetate  
Levodopa  
Levonorgestrel implants  
Lithium carbonate  
Lithium citrate  
Lorazepam  
Lovastatin  
Mebendazole  
Medroxyprogesterone acetate  
Megestrol acetate  
Melphalan  
Menotropins  
Meprobamate  
Mercaptopurine

Methacycline hydrochloride  
Methimazole  
Methotrexate  
Methotrexate sodium  
Methyl chloride  
Methyltestosterone  
Midazolam hydrochloride  
Minocycline hydrochloride (internal use)  
Misoprostol  
Mitoxantrone hydrochloride  
Nafarelin acetate  
Neomycin sulfate (internal use)  
Netilmicin sulfate  
Nickel carbonyl  
Nifedipine  
Nimodipine  
Nitrofurantoin  
Nitrogen mustard (Mechlorethamine)  
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)  
Norethisterone (Norethindrone)  
Norethisterone acetate (Norethindrone acetate)  
Norethisterone (Norethindrone)/Ethinyl estradiol  
Norethisterone (Norethindrone)/Mestranol  
Norgestrel  
Oxazepam  
Oxymetholone  
Oxytetracycline (internal use)  
Oxytetracycline hydrochloride (internal use)  
Paclitaxel  
Paramethadione  
Penicillamine  
Pentobarbital sodium  
Pentostatin  
Phenacemide  
Phenprocoumon  
Pimozide  
Pipobroman  
Plicamycin  
Polybrominated biphenyls  
Polychlorinated biphenyls  
Pravastatin sodium  
Prednisolone sodium phosphate  
Procarbazine hydrochloride  
Propylthiouracil  
Pyrimethamine  
Quazepam  
Retinol/retinyl esters, when in daily dosages in  
excess of 10,000 IU, or 3,000 retinol equivalents.  
Ribavirin  
Rifampin  
Secobarbital sodium  
Sermorelin acetate  
Streptomycin sulfate  
Streptozocin (streptozotocin)

Sulfasalazine  
Sulindac  
Tamoxifen citrate  
Temazepam  
Teniposide  
Testosterone cypionate  
Testosterone enanthate  
Tetracycline (internal use)  
Tetracyclines (internal use)  
Tetracycline hydrochloride (internal use)  
Thalidomide  
Thioguanine  
Tobacco smoke (primary)  
Tobramycin sulfate  
Triazolam  
Trientine hydrochloride  
Trilostane  
Trimethadione  
Trimetrexate glucuronate  
Uracil mustard  
Urethane  
Urofollitropin  
Valproate (Valproic acid)  
Vinblastine sulfate  
Vincristine sulfate  
Warfarin  
Zileuton