

OSHA Issues tentative carcinogen list

The Occupational Safety & Health Administration earlier this month issued a tentative list of chemicals that may be regulated under its proposed generic carcinogen policy. The policy, published in the Oct. 4, 1977, *Federal Register*, would classify chemicals into one of four categories based on the substance's known or suspected carcinogenicity. Classification into Categories I and II would trigger regulatory action based on model standards in the proposal.

In its proposal, OSHA recognized that implementation would require developing a system of priorities for the orderly handling of a large number of substances for which there is some evidence of carcinogenicity. The agency noted that the National Institute for Occupational Safety & Health has identified more than 2000 substances for which there is allegedly some degree of evidence of tumorigenicity or carcinogenicity. To get an idea of how many substances might fall into each of its proposed categories, OSHA contracted with Clement Associates Inc., a Washington, D.C., consulting firm, for a preliminary review and categorization of the chemicals identified in NIOSH's 1976 inventory of "suspected carcinogens."

Clement's first task was to identify those chemicals listed by NIOSH that are found in U.S. workplaces. It used two sources of information to accomplish this task. The first was the Environmental Protection Agency's candidate list, a first pass at identifying chemicals produced commercially in the U.S. for regulation under the Toxic Substances Control Act. The second source was the International Trade Commission's 1976 data base on organic chemicals produced commercially in the U.S.

Comparing the chemicals obtained from these two sources against the NIOSH inventory showed that, based on the EPA candidate list, 269 chemicals would be placed in OSHA's Category I, which would list confirmed carcinogens based on human data, or based on tests in two mammalian species or in one species if the tests have been replicated. An additional 218 chemicals would be placed in Category II, comprised of substances whose carcinogenicity has been reported but for which the evidence is only suggestive or is positive in only one species and not yet replicated. And 396 substances would be placed in Category III, which is made up of substances with no, or at most meager, evidence of carcinogenic risk. Based on ITC data, 116 chemicals would be placed in Category I, 72 in Category II, and 181 in Category III. It is these 116 Category I chemicals, according to OSHA, that would be the most probable candidates for regulation.

In compiling the list Clement Associates said that in reviewing each chemical it came across two positive reports of carcinogenic or neoplastic effects, it went no further. It also did not take

negative studies into account and there was no attempt to factor in whatever data might exist as the result of short-term testing.

Thus, OSHA emphasizes that the list is only tentative. It points out that, based on further scientific scrutiny, some chemicals may be dropped from the list, others may be added based on new evidence, or the criteria used to determine placement in the various categories may be changed in the final carcinogen policy regulation.

Candidates for addition to the list include imported chemicals that are present in U.S. workplaces and those that are produced as by-products of combustion and other processes.

Under the proposed policy once a substance is placed in Category I it can be removed from the list only if the Secretary of Labor determines that the alleged carcinogenic risk based on animal data clearly resulted from nonspecific physical, rather than chemical induction; that the route of exposure was grossly inappropriate relative to the potential occupational routes of human exposure; that the human or animal studies submitted for review are only suggestive; that the human or animal studies are totally inadequate to establish any conclusion with respect to the carcinogenicity or noncarcinogenicity of the toxic substance; or that, for some other scientific reason, the positive results in experimental animals are not relevant to man.

The potentially far-reaching implications of a Category I classification include almost automatic issuance of Emergency Temporary Standards and, within six months, permanent standards reducing employee exposure to such substances to the lowest feasible level through the use of engineering controls and the imposition of workplace monitoring and employee medical surveillance requirements. Some industry observers fear that because there is no exclusion in the proposed cancer policy for contaminants present in trace quantities, commercial products that contain only traces of Category I substances might have to be regulated and handled as confirmed carcinogens. Following is the complete list of substances in Category I.

CATEGORY I

Acetamide*

Acetamide, *N*-fluoren-2-yl-

Acetamide, *N,N'*-fluoren-2,7-ylenebis-

Acetamide, *N*-[4(5-nitro-2-furanyl)-2-thiazolyl]-

Acetamide, *N*-2-phenanthryl-

Acetanilide, 4'-phenyl-

Acetanilide, 4'-styryl-

Acetic acid, chromium(3+) salt*

Acetic acid, diazo-, ethyl ester

Acetic acid, lead(2+) salt*

Acetohydroxamic acid, *N*-fluoren-2-yl-

Acetohydroxamic acid, *N*-fluoren-3-yl-

Aflatoxin B₂

Aflatoxin G₁

Alanine, 4-[bis(2-chloroethyl)amino]phenyl-, L-

Alanine, 4-[bis(2-chloroethyl)amino]phenyl-, DL-

Allylamine, *N*-methyl-*N*-nitroso-

Ammonium, 4-(*p*-dimethylamino)- α -(*p*-ethyl-*m*-sulfo)benzylaminophenylbenzylidene-2,5-cyclohexadien-1-ylideneethyl-*m*-sulfo-benzyl-, hydroxide, inner salt, sodium salt*

Aniline, *N,N*-dimethyl-4-(phenylazo)*

Aniline, 4,4'-(imidocarbonyl)bis-(*N,N*-dimethyl)*

Aniline, 4,4'-(imidocarbonyl)bis-(*N,N*-dimethyl-, hydrochloride)*

Aniline, *N*-methyl-4-(phenylazo)-

Aniline, *N*-methyl-*N*-nitroso-

Aniline, 4,4'-methylthio-2-[methyl]-

Aniline, *p*-(phenylazo)*

α -Anilindole, 4-(phenylazo)-

Arsenic*

Arsenic acid, calcium salt(2:3)*

Arsenic acid, lead(2+) salt(1:1)*

Arsenic trioxide*

Arsenic acid, potassium salt*

Asbestos*

1*H*-Azepine, hexahydro-1-nitroso-

Azirino[2',3':3,4]pyrrolo[1,2-*a*]indole-4,7-dione, 6-amino-8-[(aminocarbonyl)oxyl]methyl-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl, carbamate(ester)

Azocine, octahydro-1-nitroso-

Barbituric acid, 5-ethyl-5-phenyl-, monosodium salt*

Benz[e]phenanthrylene

Benz[a]anthracene

Benz[a]anthracene, 7,12-dimethyl*

Benz[a]anthracene, 7-methyl-

Benz[a]anthracene, 7,8,12-trimethyl-

Benzaniline, *N,N'*-dimethyl-4-[(3-methylphenyl)azo]-

Benzaniline, 4,4'-methylenebis[2-chloro-*

Benzenes*

Benzenes, 4-allyl-1,2-(methylenedioxy)*

Benzenes, 1,2-methylenedioxy-4-propyl*

Benidine*

Benidine, 3,3'-dichloro*

Benidine, 3,3'-dimethoxy*

Benidine, 3,3'-dimethoxy-, dihydrochloride-

Benidine, sulfate(1:1)*

1,2-Benzisothiazol-3(2*H*)-one, 1,1-dioxide*

1,2-Benzisothiazol-3(2*H*)-one, 1,1-dioxide, sodium salt*

Benzo[*a*]anthracene, 5-methyl-

Benzo[*a*]pyrene

p-Benzoquinone, 2,3,5-tris(1-aziridinyl)-

Benzo[*b*]triphenylene

Benzylamine, *N*-methyl-*N*-nitroso-

Bertrandite*

Bery*

Beryllium*

Beryllium fluoride

Beryllium hydrogen phosphate(1:1)*

Beryllium oxide*

Beryllium sulfate(1:1)*

Beryllium sulfate tetrahydrate(1:1:4)*

4-Biphenylamine

4-Biphenylamine, 2',3-dimethyl-
Biphenyl, 4-nitro-
Bluret, N-ethyl-N-nitroso-
Bluret, N-methyl-N-nitroso-
1-Butanamine, N-butyl-N-nitroso-
Butane, 1,2,3,4-diepoxy-
Butane, (+-), 1,2,3,4-diepoxy-
Butane, 1,2,3,4-diepoxy-, meso
6H,6H-6,6a,13a,14-(1,2,3,4)-Butanetetrayclo-
octa[1,2-b:5,6-b']dinaphthalene-
5,8,13,18(14H)-tetraone,
1,4,7,9,12,15,17,20-octahydroxy-3,11-di-
methyl-

1-Butanol, 4-(butylitrosamine)-
Butylamine, N-ethyl-N-nitroso-
Butylamine, N-methyl-N-nitroso-
Butyric acid, 2-amino-4-(ethylthio)-L-
Butyric acid, 2-amino-4-(ethylthio)-DL-
Butyric acid, 4-[p-bis(2-chloroethyl)-
aminophenyl].^a

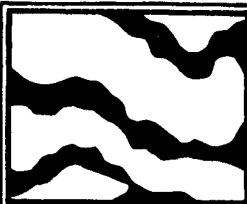
Cadmium^a
Cadmium, bis(diethylidithiocarbamate)-^a
Cadmium chloride^a
Cadmium oxide^a
Cadmium sulfate(1:1)^a
Cadmium sulfide^a
Carbamic acid, bis(2-hydroxyethylidithio-
monopotassium salt
Carbamic acid, ethyl ester^a
Carbamic acid, N-methyl-N-nitroso-, ethyl
ester
Carbon tetrachloride^a
Chloroform^a
Cholanthrene, 3-methyl-^a
Chromic acid, calcium salt(1:1)^a
Chromic acid, calcium salt(1:1), dihydrate^a
Chromic acid, chromium(3+) salt(3:2)^a
Chromic acid, dipotassium salt^a
Chromic acid, disodium salt^a
Chromic acid, lead(2+) salt(1:1)^a
Chromite^a
Chromium^a
Chromium(VII) oxide(1:3)^a
Chromium(III) oxide(2:3)^a
6-Chrysenamine
Coumarin^a
Cyclohexane, 1,2,3,4,5,6-hexachloro-
Cyclohexane, 1,2,3,4,5,6-hexachloro-, alpha
isomer
Cyclohexane, 1,2,3,4,5,6-hexachloro-,
gamma isomer^a
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (mixed
isomer)
Cyclohexanecarbamic acid, 1,1-diphenyl-2-
propenyl ester
Cyclopentadiene[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000]

Daunomycin
Dibenz[a,h]acridine
Dibenz[a,h]acridine
Dibenz[a,h]anthracene
7H-Dibenz[2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,118,119,120,121,122,123,124,125,126,127,128,129,130,131,132,133,134,135,136,137,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158,159,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175,176,177,178,179,180,181,182,183,184,185,186,187,188,189,190,191,192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,224,225,226,227,228,229,230,231,232,233,234,235,236,237,238,239,240,241,242,243,244,245,246,247,248,249,250,251,252,253,254,255,256,257,258,259,260,261,262,263,264,265,266,267,268,269,270,271,272,273,274,275,276,277,278,279,280,281,282,283,284,285,286,287,288,289,290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306,307,308,309,310,311,312,313,314,315,316,317,318,319,320,321,322,323,324,325,326,327,328,329,330,331,332,333,334,335,336,337,338,339,340,341,342,343,344,345,346,347,348,349,350,351,352,353,354,355,356,357,358,359,360,361,362,363,364,365,366,367,368,369,370,371,372,373,374,375,376,377,378,379,380,381,382,383,384,385,386,387,388,389,390,391,392,393,394,395,396,397,398,399,400,401,402,403,404,405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433,434,435,436,437,438,439,440,441,442,443,444,445,446,447,448,449,450,451,452,453,454,455,456,457,458,459,460,461,462,463,464,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,480,481,482,483,484,485,486,487,488,489,490,491,492,493,494,495,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,515,516,517,518,519,520,521,522,523,524,525,526,527,528,529,530,531,532,533,534,535,536,537,538,539,540,541,542,543,544,545,546,547,548,549,550,551,552,553,554,555,556,557,558,559,560,561,562,563,564,565,566,567,568,569,570,571,572,573,574,575,576,577,578,579,580,581,582,583,584,585,586,587,588,589,590,591,592,593,594,595,596,597,598,599,600,601,602,603,604,605,606,607,608,609,610,611,612,613,614,615,616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631,632,633,634,635,636,637,638,639,640,641,642,643,644,645,646,647,648,649,650,651,652,653,654,655,656,657,658,659,660,661,662,663,664,665,666,667,668,669,670,671,672,673,674,675,676,677,678,679,680,681,682,683,684,685,686,687,688,689,690,691,692,693,694,695,696,697,698,699,700,701,702,703,704,705,706,707,708,709,710,711,712,713,714,715,716,717,718,719,720,721,722,723,724,725,726,727,728,729,730,731,732,733,734,735,736,737,738,739,740,741,742,743,744,745,746,747,748,749,750,751,752,753,754,755,756,757,758,759,760,761,762,763,764,765,766,767,768,769,770,771,772,773,774,775,776,777,778,779,780,781,782,783,784,785,786,787,788,789,790,791,792,793,794,795,796,797,798,799,800,801,802,803,804,805,806,807,808,809,810,811,812,813,814,815,816,817,818,819,820,821,822,823,824,825,826,827,828,829,830,831,832,833,834,835,836,837,838,839,840,841,842,843,844,845,846,847,848,849,850,851,852,853,854,855,856,857,858,859,860,861,862,863,864,865,866,867,868,869,870,871,872,873,874,875,876,877,878,879,880,881,882,883,884,885,886,887,888,889,890,891,892,893,894,895,896,897,898,899,900,901,902,903,904,905,906,907,908,909,910,911,912,913,914,915,916,917,918,919,920,921,922,923,924,925,926,927,928,929,930,931,932,933,934,935,936,937,938,939,940,941,942,943,944,945,946,947,948,949,950,951,952,953,954,955,956,957,958,959,960,961,962,963,964,965,966,967,968,969,970,971,972,973,974,975,976,977,978,979,980,981,982,983,984,985,986,987,988,989,990,991,992,993,994,995,996,997,998,999,1000]

Diethylamine, 2,2'-dichloro-N-methyl-,
hydrochloride
Diethylamine, 2,2'-dichloro-N-methyl-, N-
oxide
Diethylamine, 2,2'-dichloro-N-methyl-, N-
oxide, hydrochloride
Diethylamine, N-nitroso-
1,4,5,8-Dimethanonaphthalene,
1,2,3,4,10,10-hexachloro-6,7-epoxy-
1,4,4a,5,6,7,8,8a-octahydro-, endo, exo-^a
Dimethylamine, N-nitroso-^a
p-Dioxane^a
Estra-1,3,5,7,9-pentaen-17-one, 3-hydroxy-
Estra-1,3,5(10),7-tetraen-17-one, 3-hydroxy-
Estradiol
17- α -Estradiol
Estradiol, 3-benzoate
Estradiol, dipropionate
Estril
Estrone
Estrone benzoate
Ethane, azo-
Ethane, azoxy-
Ethane, 1,2-dibromo-^a
Ethane, 1,1,1-trichloro-2,2-bis(p-
chlorophenyl)-^a
Ether, bis(chloromethyl)
Ethylene, chloro-, monomer^a
Ethyleneimine, N,N'-dimethyl-N,N'-
dinitroso-
Ethylene, 1,1-dichloro-2,2-bis(p-chlorophenyl)-
Ethylene, trichloro-^a
Ethyleneimine^a

Fluorene-2-amine
Fluorene-2,7-diamine
Formamide, N-[4-(5-nitro-2-furanyl)-2-
thiazolyl]-^a
Formic acid, 2-[4-(5-nitro-2-furanyl)-2-
thiazolyl]-, hydrazide
7H-Furo[3',2':4,5]furo[2,3-c]xanthene-7-one,
3a,12c-dihydro-8-hydroxy-6-methoxy-
Glucopyranose, 2-deoxy-2-(3-methyl-3-
nitrosoureido)-O-
 β -D-Glucopyranoside, (methyl-ONN-azoxy)-
methyl
Glycidaldehyde
Quandine, N-methyl-N'-nitro-N-nitroso
Quandine, N-methyl-N'-nitro-N-nitroso-
Hemate^a
Hydrazine^a
Hydrazine, 1-acetyl-2-picolinoyl-
Hydrazine, 1,2-diethyl
Hydrazine, 1,1-dimethyl-, monohydrochloride
Hydrazine, 1,2-dimethyl-,
Hydrazine, 1,2-dimethyl-, hydrochloride
Hydrazine, 1,2-dimethyl-, dihydrochloride
Hydrazine, methyl-, sulfate
Hydrazine, monohydrate
Hydrazine, phenyl-, monohydrochloride^a
Hydrazine, sulfate(1:1)

Imidazole-4-carboxamide, 5-(3,3-dimethyl-1-
triazenyl)-
Isonicotinic acid, hydrazide^a
Lactocarpine



Mesomorphic Order in Polymers and Polymerization in Liquid Crystalline Media

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Polymerization of 4-Cyano-2-biphenyl in a 21-
azobenzene • Polymerization in Liquid Crystalline
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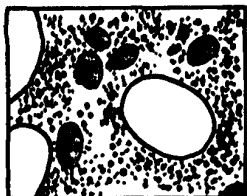
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Lead, bis(acetoato-o)-tetrahydroxytri-
Lead chromate(VI) oxide
Lead naphthalene
Lead(II) phosphate(3:2)*

Mannitol, 1,6-bis[2-chloroethylamino]-, 1,6-dideoxy-, D-

Mannitol, 1,6-bis[2-chloroethylamino]-, 1,6-dideoxy-, D-, dihydrochloride

Methane, diazo-

Methanesulfonic acid, ethyl ester

Methanesulfonic acid, methyl ester

Methanol, (methyl-ONN-azoxy)-

Methanol, (methyl-ONN-azoxy)-acetate (ester)

1,3,4-Metheno-1H-cyclobuta [cd]pentalene, 1,1a,2,2,3,3a,4,5,5a,5b,6-dodecachlorooctahydro-^a

1,3,4-Metheno-2H-cyclobuta [cd]pentalen-2-one, 1,1a,3,3a,4,5,5a,5b,6-decachlorooctahydro-^a

Morpholine, 4-nitroso-

2,7-Naphthalenedisulfonic acid, 3,3'-(3,3'-dimethyl-4,4'-biphenylene)-bis(azo)-bis(5-amino-4-hydroxy-, tetrasodium salt^a

2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-[(2,4,6-trimethylphenyl)azo]-, disodium salt^a

2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-(2,4-xylylazo)-, disodium salt^a

2-Naphthol, 1-[(2,5-dimethoxyphenyl)azo]-^a

2-Naphthol, 1-(o-tolylazo)-^a

1-Naphthylamine^a

2-Naphthylamine^a

Nickel^a

Nickel(II) acetate(1:2)*

Nickel, bis(dibutylthiocarbamate)-^a

Nickel carbonyl^a

Nickelocene (Nickel compound with π -cyclopentadienyl (1:2))

Nickel(II) oxide^a

Nickel refinery dust^a

Nickel sulfide(3:2)*

19-nor-17 α -Preg-4-en-20-yn-3-one, 17-acetoxy-

19-nor-17 α -Preg-4-en-20-yn-3-one, 17-hydroxy-

19-nor-17 α -Preg-5(10)-en-20-yn-3-one, 17-hydroxy-^a

19-nor-17 α -Preg-5(10)-en-20-yn-3-one, 17-hydroxy-, mixed with 3-methoxy-19-nor-17 α -pregne-1,3,5(10)-trien-20-yn-17-ol

19-nor-17 α -Preg-1,3,5(10)-trien-20-yn-3, 17 diol

17- α -19-Norpreg-1,3,5(10)-trien-20-yn-17-ol, 3-methoxy-

7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 4-methyl-, (4-methyl-7-oxabicyclo[4.1.0]hept-3-yl)methyl ester

1,2-Oxathiolane 2,2-dioxide

2H-1,3,2-Oxazaphosphorine, 2-[bis(2-chloroethylamino)]tetrahydro-, 2-oxide

2-Oxetanone^a

2-Oxetanone, 4-methyl-

Pentylamine, N-methyl-N-nitroso-Phenol, 4,4'-(1,2-diethylthylene)di-, meso-

Phosphine sulfide, tri(1-aziridinyl)-

Piperidine, 1-nitroso-

Piperazine, 1,4-dinitroso-

Polychlorinated biphenyl (Kanechlor 500)

Polyethylthene glycol monostearate^a

Progesterone^a

Propane, 1,2-dibromo-3-chloro-^a

Pyridine, 2,6-diamino-3-(phenylazo)-, monohydrochloride^a

Quinoline, 4-(hydroxyamino)-, 1-oxide

Quinoline, 4-(hydroxyamino)-, 1-oxide, monohydrochloride

Quinoline, 4-nitro-, 1-oxide

Retrotrans

Sarcosine, N-nitroso-

Serpentine^a

Silicic acid, beryllium salt

Spiro[benzofuran-2(3H)-1'-[2(cyclohexene)-3,4'-dione, 7-chloro-2',4,6-trimethoxy-8'- β -methyl-

4-Stilbenamine, N,N-dimethyl-, (E)-

Stilbene, α,α' -diethyl-, 4,4'-dimethoxy-

Stilbene, 4-nitro-

4,4'-Stilbenediol, α,α' -diethyl-, 4,4'-dimethoxy-

Stilbene, 4-nitro-

4,4'-Stilbenediol, α,α' -diethyl-, dipropionate, (E)-

Sulfide, bis(2-chloroethyl)-

Sulfonamide, 4-(6-ethylsulfonyl)-1-naphthalene

Sulfuric acid, dimethyl ester^a

Sulfurous acid, 2-(p-tert-butylphenoxy)-1-methylethyl-2-chloroethyl ester^a

Tannic acid^a

Tannin

Testosterone

Testosterone, propionate

Thiazole, 2-(2,2-dimethylhydrazino)-4-(6-nitro-2-furyl)-

Thiazole, 2-hydrazino-4-(6-nitro-2-furyl)-

Thiazole, 2-hydrazino-4-(4-nitrophenyl)-

Thioacetamide^a

p-Toluidine, N-isopropyl- α -(2-methylhydrazino)-

p-Toluidine, N-isopropyl- α -(2-methylhydrazino)-, (methylhydrochloride)

o-Tolidine^a

4-Tolidine, α -(p-aminophenyl)- α -(4-imino-2,5-cyclohexadien-1-ylidene)-

4-Tolidine, α -(p-aminophenyl)- α -(4-imino-2,5-cyclohexadien-1-ylidene)-, monohydrochloride^a

Triazene, 3,3-dimethyl-1-phenyl-

Triazene, 2,4,6-tris(1-aziridinyl)-

s-Triazole, 3-amino-^a

Uracil, 5-[bis(2-chloroethylamino)]-

Uracil, 6-methyl-2-thio-

Uracil, 6-propyl-2-thio-^a

Uracil, 2-thio-^a

Urea, 1-butyl-1-nitroso-

Urea, ethylnitroso-

Urea, methylnitroso-

Urea, thio-

Vinylamine, N-ethyl-N-nitroso-

2,4-Xylylene, α (sup 4)-[p-aminophenyl]- α (sup 4)-[4-imino-2,5-cyclohexadien-1-ylidene)-, monohydrochloride^a

^a Identified by International Trade Commission as being produced commercially in U.S.