
WAKE FOREST
UNIVERSITY
HEALTH SCIENCES

**LIST OF CHEMICAL SUBSTANCES SUBJECT TO
CHEMICAL SAFETY COMMITTEE APPROVAL**

TABLE OF CONTENTS

<i>I.</i>	<i>PURPOSE</i>	3
<i>II.</i>	<i>SCOPE</i>	3
<i>III.</i>	<i>DETAILED PROCEDURES</i>	3
A.	Responsibilities	3
B.	Authorities and References	3
C.	Criteria For Regulated Chemicals	3
	TABLE OF REGULATED CHEMICALS	8

**LIST OF CHEMICAL SUBSTANCES SUBJECT TO
CHEMICAL SAFETY COMMITTEE APPROVAL**

PREPARED BY:
Environmental Health and Safety

Effective: August 2002
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I. PURPOSE

This list provides a baseline catalog of chemical substances, which require "approval for use".

II. SCOPE

The list applies to all students and visiting faculty or students.

III. DETAILED PROCEDURES

A. Responsibilities

1. Environmental Health & Safety

Maintains this document

2. Lab Directors, Principal Investigators, Students or Visiting Faculty or Students

Refer to this document for appropriate action.

B. Authorities and References

OSHA 29 CFR 1901.1450

*Occupational Exposure to Hazardous
Chemicals in Laboratories*

C. Criteria For Regulated Chemicals

1. "Select Carcinogen"

Select carcinogen means any substance, which meets one of the following criteria:

- It is regulated by OSHA as a carcinogen; or
- It is listed under the category, "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP)(latest edition);
or

- It is listed under Group 1 ("carcinogenic to humans") by the International Agency for research on Cancer Monographs (IARC)(latest editions); or
 - It is listed in either Group 2A or 2B by IARC or under the category, "reasonably anticipated to be carcinogens" by NTP, and causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria:
 1. After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m³;
 2. After repeated skin application of less than 300 (mg/kg of body weight) per week; or
 3. After oral dosages of less than 50 mg/kg of body weight per day.
2. Reproductive Toxins
- "Reproductive toxins" means chemicals, which affect the reproductive chemicals, which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis).
3. Substances Which Have a High Degree of Acute Toxicity
- A chemical that has a median lethal dose (LD50) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
 - A chemical that has a median lethal dose (LD50) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.
 - A chemical that has a median lethal concentration (LC50) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.
 - Substances which have a PEL (OSHA Permissible Exposure Limit) or TLV (American Conference of Hygienist Threshold Limit Value) of 5 mg/m³ or less in air.
 - Substances which have a PEL or TLV of 5 ppm or less in air.
 - Substances which are chemical or biological warfare agents.
4. CDC Select Agent Toxins
- [Click here for the listed CDC Select Agent Toxins.](#) Select Agent Toxins require the submission of a Chemical Safety Application and [Biological Safety Standard Operating Procedure.](#)
5. Chemicals with Standard Operating Procedures
- A number of commonly used hazardous chemicals have WFUHS Standard Operating Procedures. [Click here](#) to access these documents.

A Chemical Safety Application will not be required as long as the Standard Operating Procedure applies.

6. The following pharmaceutical materials which may have carcinogenic or reproductive hazards associated with their use do not require a Chemical Safety Application so long as they are used in a common pharmaceutical form:

1. Aminopterin	2. Antithyroid Drugs
3. Coumarin Anticoagulants	4. Diazepam
5. Metronidazole	6. Methylaminopterin
7. Nitroglycerin	8. Oxymetholone
9. Penicillamine	10. Tetracyclines

7. The WFUHS Hazardous Drug Program regulates the use of the following Hazardous Drugs. A Chemical Safety Application is not required. However, a laboratory specific Standard Operating Procedure is required for work involving the following materials.

Chemical/Generic Name	Source*
1. Altretamine	C
2. Aminoglutethimide	A
3. Azathioprine	ACE
4. L-Asparaginase	ABC
5. Bleomycin	ABC
6. Busulfan	ABC
7. Carboplatin	ABC
8. Carmustine	ABC
9. Chlorambucil	ABCE
10. Chloramphenicol	E
11. Chlorotianisene	B
12. Chlorozotocin	E
13. Cyclosporin	E
14. Cisplatin	ABCE
15. Cyclophosphamide	ABCE
16. Cytarabine	ABC
17. Dacarbazine	ABC
18. Dactinomycin	ABC
19. Daunorubicin	ABC
20. Doxorubicin	ABCE
21. Estramustine	AB
22. Etoposide	ABC
23. Floxuridine	AC
24. Fluorouracil	ABC
25. Flutamide	BC
26. Ganciclovir	AD
27. Hydroxyurea	ABC
28. Idarubicin	AC
29. Ifosfamide	ABC
30. Interferon-A	BC
31. Isotretinoin	D
32. Leuprolide	BC
33. Levamisole	C
34. Lomustine	ABCD
35. Mechlorethamine	BC
36. Medroxyprogesterone	B
37. Megestrol	BC

Chemical/Generic Name	Source*
38. Melphalan	ABCE
39. Mercaptopurine	ABC
40. Methotrexate	ABC
41. Mitomycin	ABC
42. Mitotane	ABC
43. Mitoxantrone	ABC
44. Nafarelin	C
45. Pipobroman	C
46. Plicamycin	BC
47. Procarbazine	ABCE
48. Ribavirin	D
49. Streptozocin	AC
50. Testolactone	BC
51. Thioguanine	ABC
52. Thiotepa	ABC
53. Uracil Mustard	ACE
54. Vidarabine	D
55. Vinblastine	ABC
56. Vincristine	ABC
57. Zidovudine	D

* Sources

- A The National Institutes Of Health, Clinical Center Nursing Department
- B Antineoplastic Drugs In The Physicians' Desk Reference
- C American Hospital Formulary, Antineoplastics
- D Johns Hopkins Hospital
- E International Agency For Research On Cancer

8. Hormonal drugs require that the lab have a written standard operating procedure governing the use of such materials. However, a Chemical Safety Application is not required.

1. Conjugated Estrogens
2. Estrogens (Not Conjugated): Estradiol-17beta, Estrone, Ethinylestradiol, Mestranol
3. Diethylstilbestrol (Diethylstilboestrol)
4. Tamoxifen
5. Androgenic (Anabolic) Steroids
6. Progesterone
7. Ethinyl Estradiol

9. Anesthetic materials do not require a Chemical Safety Application. Please contact EH&S to arrange for exposure monitoring if using the following materials:
- [Enflurane](#)
 - [Fluoroxane](#)
 - [Halothane](#)
 - [Methoxyflurane](#)
 - [Nitrous Oxide](#)

10. The use of Urethane as an anesthetic is subject to the requirements of a WFUHS Standard Operating Procedure. No Chemical Safety Application is necessary.
11. Air and Water Reactive Chemicals are listed in the Reactive Chemical Policy. These materials require a Chemical Safety Application and a Standard Operating Procedure.
12. Regulated Chemicals List:
 - The chemicals or agents listed in Section D meet one or more of the above criteria.
 - If the chemicals or agents that a researcher wishes to use are not listed in Section D, but the supplier of the chemical has designated it as a select carcinogen, reproductive hazard, or has a high degree of acute toxicity, then it is subject to the regulation of the Chemical Safety Committee.
 - If the chemicals or agents that a researcher wishes to use are not listed in Section D, but the perspective user of chemical has knowledge that it a select carcinogen, reproductive hazard, or has a high degree of acute toxicity, then it is subject to the regulation of the Chemical Safety Committee.
 - If the chemical or agent that the researcher wishes to use is a chemical or biological warfare agent, then it is subject to the regulation of the Chemical Safety Committee.

TABLE OF REGULATED CHEMICALS

Chemical Agent	CASRN	CARCINOGENIC			REPRODUCTIVE HAZARD				EXPOSURE LIMITS (PEL)		
		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
1. (2-CHLOROETHYL-3-(4-METHYLCYCLOHEXYL-1-NITROSOUREA (MeCCNU)	13909-09-6	N/A	KNOWN	GROUP 1							
2. (N,N-DIMETHYLANILINE)	121-69-7								5	25	X
3. 1-(2-CHLOROETHYL)-3-CYCLOHEXYL-1-NITROSOUREA (CCNU)	13010-47-4	N/A	ANTICIPATE D	GROUP 2							
4. 1,1-DIMETHYLHYDRAZINE	57-14-7	N/A	ANTICIPATE D						.05	1	X
5. 1,2,3-TRICHLOROPROPANE	96-18-4			GROUP 2							
6. 1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	1910.10 44	ANTICIPATE D								
7. 1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	106-93-4	N/A	ANTICIPATE D								
8. 1,2-DICHLOROETHANE	107-06-2	N/A	ANTICIPATE D								
9. 1,3-BUTADIENE	106-99-0	29 CFR 1910.10 51	ANTICIPATE D	GROUP 2					1		
10. 1,3-DICHLORO-5, 5-DIMETHYL HYDANTOIN	118-52-5									.02	
11. 1,3-DICHLOROPROPENE (TECHNICAL GRADE)	542-75-6	N/A	ANTICIPATE D								
12. 1,3-PROPANE SULTONE	1120-71-4	N/A	ANTICIPATE D								
13. 1,4-DICHLOROBENZENE	106-46-7	N/A	ANTICIPATE D								
14. 1,4-DIOXANE	123-91-1	N/A	ANTICIPATE D								
15. 13-CIS-RETINOIC ACID (ISOTRETINOIN AND ACCUTANE)					YES						
16. 1-AMINO-2-METHYLANTHRAQUINONE	82-28-0	N/A	ANTICIPATE D								

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
17. 2,3,7,8-TETRACHLORODIBENZO-PARA-DIOXIN	1746-01-6	N/A	ANTICIPATED	GROUP 1							
18. 2,4,5-T					YES						
19. 2,4,6-TRICHLOROPHENOL	88-06-2	N/A	ANTICIPATED								
20. 2,4-DIAMINOANISOLE SULFATE	39156-41-7	N/A	ANTICIPATED								
21. 2,4-DIAMINOTOLUENE	95-80-7	N/A	ANTICIPATED								
22. 2-ACETYLAMINOFLUORENE	53-96-3	1910.10 14	ANTICIPATED								
23. 2-AMINOANTHRAQUINONE	117-79-3	N/A	ANTICIPATED								
24. 2-AMINOPYRIDINE	504-29-0							.05	2		
25. 2-METHYLAZIRIDINE (PROPYLENEIMINE)	75-55-8	N/A	ANTICIPATED								
26. 2-NAPHTHYLAMINE	91-59-8	N/A		GROUP 1							
27. 2-NITROPROPANE	79-46-9	N/A	ANTICIPATED								
28. 3,3'-DICHLOROBENZIDINE	91-94-1	N/A	ANTICIPATED								
29. 3,3'-DICHLOROBENZIDINE 2HCl	612-83-9	N/A	ANTICIPATED								
30. 3,3'-DIMETHOXYBENZIDINE	119-90-4	N/A	ANTICIPATED								
31. 3,3'-DIMETHOXYBENZIDINE 2HCl	20325-40-0	N/A	ANTICIPATED								
32. 3,3'-DIMETHYLBENZIDINE	119-93-7	N/A	ANTICIPATED								
33. 3-CHLORO-2-METHYLPROPENE	563-47-3	N/A	ANTICIPATED								
34. 4-(N-NITROSOMETHYL-AMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK)	64091-91-4	N/A	ANTICIPATED								
35. 4,4'-METHYLENE BIS(2-CHLOROANILINE) (MOCA)	101-14-4	N/A	ANTICIPATED	GROUP 2							

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
36. 4,4'-METHYLENEBIS(N,N-DIMETHYLBENZENAMINE)	101-61-1	N/A	ANTICIPATE D								
37. 4,4'-METHYLENEDIANILINE AND ITS DIHYDROCHLORIDE	101-77-9 and 13552-44-8	N/A	ANTICIPATE D								
38. 4,4'-OXYDIANILINE	101-80-4	N/A	ANTICIPATE D								
39. 4-AMINOBIIPHENYL	92-67-1	1910.10 11	KNOWN	GROUP 1							
40. 4-CHLORO- <i>o</i> -PHENYLENEDIAMINE	95-83-0	N/A	ANTICIPATE D								
41. 4-DIMETHYLAMINO-AZOBENZENE	60-11-7	1910.10 15	ANTICIPATE D								
42. 4-NITROBIIPHENYL		1910.10 03									
43. 4-VINYL-1-CYCLOHEXENE DIEPOXIDE	106-87-6	N/A	ANTICIPATE D								
44. 5-METHOXYPORALEN	484-20-8			GROUP 2							
45. 8-METHOXYPORALEN (METHOXSALEN)	298-81-7	N/A		GROUP 1							
46. ACETYLENE TETRABROMIDE	79-27-6								1	14	
47. A-CHLOROACETOPHENONE (PHENACYL CHLORIDE)	532-27-4								.005	.03	
48. ACROLEIN	107-02-8								.01	.025	
49. ADRIAMYCIN	23214-92-8	N/A	ANTICIPATE D	GROUP 2							
50. AFLATOXINS	1402-68-2		KNOWN	GROUP 1							
51. ALDRIN	309-00-2									.025	X
52. ALLYL GLYCIDYL ETHER (AGE)	106-92-3								10 (C)	45 (C)	
53. ALLYL PROPYL DISULFIDE	2179-59-1								2	12	
54. ALPHA-NAPHTHYLAMINE		1910.10 04									

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
55. AMITROLE	61-82-5	N/A	ANTICIPATED								
56. ANISIDINE (O-,P-ISOMERS)	29191-52-4								.05		X
57. ANTIMONY AND COMPOUNDS (AS SB)	7440-36-0								.05		
58. ARSENIC AND ARSENIC COMPOUNDS	7440-38-2	1910.10 18		GROUP 1	YES						
59. ARSINE	7784-42-1							.005	.02		
60. AZACITIDINE	320-67-2			GROUP 2							
61. AZATHIOPRINE	446-86-6	N/A	KNOWN	GROUP 1							
62. AZINPHOS-METHYL	86-50-0								.02		X
63. BENZIDINE	92-87-5	1910.10 10	KNOWN	GROUP 1							
64. BENZIDINE-BASED DYES				GROUP 2							
65. BENZOTRICHLORIDE	98-07-7	N/A	ANTICIPATED								
66. BENZYL CHLORIDE	100-44-7							1	5		
67. BERYLLIUM AND COMPOUNDS	7440-41-7		ANTICIPATED	GROUP 1					2		
68. BETA- NAPHTHYLAMINE	91-59-8	1910.10 09	KNOWN								
69. BETA-PROPRIOLACTONE	57-57-8	1910.10 13	ANTICIPATED								
70. BISCHLOROETHYL NITROSOUREA (BCNU)	154-93-8	N/A	ANTICIPATED	GROUP 2							
71. BIS-CHLOROMETHYL ETHER	542-88-1	1910.10 08	KNOWN	GROUP 1							
72. BORON TRIFLUORIDE	7637-07-2							1 (C)	3 (C)		
73. BROMINE	7726-95-6							.01	07		
74. BROMODICHLOROMETHANE	75-27-4	N/A	ANTICIPATED								

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
			D								
75. BROMOFORM	75-25-2								.05	5	X
76. BUTYLATED HYDROXYANISOLE	25013-16-5	N/A	ANTICIPATE D								
77. C.I. BASIC RED 9 MONOHYDROCHLORIDE	569-61-9	N/A	ANTICIPATE D								
78. CADMIUM AND COMPOUNDS	7440-43-9	1910.10 27	ANTICIPATE D	GROUP 1	YES		YES				
79. CAPTAFOL	2425-06-1			GROUP 2							
80. CARBARYL (SEVIN)	63-25-2									5	
81. CHLORDANE	57-74-9									.05	X
82. CHLORENDIC ACID	115-28-6	N/A	ANTICIPATE D								
83. CHLORINATED CAMPHENE	8001-35-2									.05	X
84. CHLORINATED DIPHENYL OXIDE	55720-99-5									.05	
85. CHLORINATED PARAFFINS (C12, 60% CHLORINE)	108171-26-2	N/A	ANTICIPATE D								
86. CHLORINE TRIFLUORIDE	7790-91-2								.01 (C)	.04 (C)	
87. CHLOROACETALDEHYDE	107-20-0								1 (C)	3 (C)	
88. CHLOROBIPHENYLS					YES						
89. CHLORODIPHENYL (42% CHLORINE)(PCB)	53469-21-9				YES					1	X
90. CHLORODIPHENYL (54% CHLORINE)(PCB)	11097-69-1				YES					.05	X
91. CHLOROMETHYL METHYL ETHER, TECH-GRADE	107-30-2	N/A	KNOWN								
92. CHLOROPICRIN	76-06-2								.01	07	
93. CHLOROPRENE "S"					YES	YES	YES				
94. CLOPIDOL (RESPIRABLE FRACTION)	2971-90-6									5	
95. COBALT AND COMPOUNDS	7440-48-4									.01	
96. CRAG HERBICIDE (SESONE)	136-78-7										

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
(RESPIRABLE FRACTION)											
97. CRESOL, ALL ISOMERS	1319-77-3									5	
98. CROTONALDEHYDE	123-73-9								5	22	X
99. CUPFERRON	135-20-6	N/A	ANTICIPATED						2	6	
100. CYANIDES (AS CN)	(4)										
101. DACARBAZINE	4342-03-4	N/A	ANTICIPATED								
102. DECABORANE	17702-41-9										
103. DEMETON (SYSTOX)	8065-48-3								.005	.03	X
104. DIAZOMETHANE	334-88-3										
105. DIBENZANTHRACENE	53-70-3			GROUP 2					.02	.04	
106. DIBORANE	19287-45-7										
107. DIBROMO-3-CHLOROPROPANE, 1,2-						YES	YES		.01	.01	
108. DIBUTYL PHOSPHATE	107-66-4										
109. DIBUTYL PHTHALATE	84-74-2								1	5	
110. DICHLORODIPHENYLTRICHLOROETHANE (DDT)	50-29-3	N/A	ANTICIPATED		YES		YES			5	
111. DICHLORVOS (DDVP)	62-73-7									1	X
112. DICYCLOPENTADIENYL IRON (RESPIRABLE FRACTION)	102-54-5									5	
113. DIELDRIN	60-57-1									.025	X
114. DIEPOXYBUTANE	1464-53-5	N/A	ANTICIPATED								
115. DIETHYL SULFATE	64-67-5	N/A	ANTICIPATED	GROUP 2							
116. DIGLYCIDYL ETHER (DGE)	2238-07-5								.5 (C)	2.8 (C)	
117. DIGLYCIDYL RESORCINOL ETHER	101-90-6	N/A	ANTICIPATED								
118. DIMETHYL SULFATE	77-78-1	N/A	ANTICIPATED	GROUP					1	5	X

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
			D	2							
119. DIMETHYL-1,2-DIBROMO-2,2-DICHLOROETHYL PHOSPHATE	300-76-5									3	
120. DIMETHYLCARBAMOYL CHLORIDE	79-44-7	N/A	ANTICIPATE D	GROUP 2							
121. DIMETHYLVINYL CHLORIDE	513-37-1	N/A	ANTICIPATE D								
122. DINITROBENZENE (ALL ISOMERS)										1	X
123. DINITRO-O-CRESOL	534-52-1									.02	X
124. DIPHENYL (BIPHENYL)	92-52-4								.02	1	
125. DIPHENYLHYDANTOIN AND TRIMETHADIONE					YES						
126. DIRECT BLACK 38	1937-37-7	N/A	ANTICIPATE D								
127. DIRECT BLUE 6	2602-46-2	N/A	ANTICIPATE D								
128. ENDRIN	72-20-8									.01	X
129. EPICHLOROHYDRIN	106-89-8	N/A	ANTICIPATE D	GROUP 2					5	19	X
130. ERIONITE	66733-21-9	N/A	KNOWN	GROUP 1							
131. ETHYL ACRYLATE	140-88-5	N/A	ANTICIPATE D								
132. ETHYL METHANESULFONATE	62-50-0	N/A	ANTICIPATE D								
133. ETHYLENE CHLOROHYDRIN	107-07-3								5	16	X
134. ETHYLENE DIBROMIDE	106-93-4			GROUP 2	YES	YES	YES			2	
135. ETHYLENE GLYCOL DINITRATE	628-96-6								.02 (C)	1 (C)	X
136. ETHYLENE THIOUREA	96-45-7	N/A	ANTICIPATE D								
137. ETHYLENEIMINE		1910.10 12									
138. ETRETINATE					YES						
139. FERROVANADIUM DUST	12604-									1	

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
	58-9										
140. FLUORINE	7782-41-4								.01	.02	
141. FURFURAL	98-01-1								5	20	X
142. GLYCIDOL	556-52-5	N/A	ANTICIPATED								
143. HEPTACHLOR	76-44-8									.05	X
144. HEXACHLOROBENZENE	118-74-1	N/A	ANTICIPATED					YES			
145. HEXACHLOROETHANE	67-72-1	N/A	ANTICIPATED						1	10	X
146. HEXACHLORONAPHTHALENE	1335-87-1									.02	X
147. HEXAMETHYL-PHOSPHORAMIDE	680-31-9	N/A	ANTICIPATED								
148. HYDRAZINE	302-01-2	N/A	ANTICIPATED						1	13	X
149. HYDRAZINE SULFATE	10034-93-2		ANTICIPATED								
150. HYDRAZOBENZENE	122-66-7	N/A	ANTICIPATED								
151. HYDROQUINONE	123-31-9									2	
152. IQ (2-AMINO-3-METHYLIMIDAZO4,5-FQUINOLINE)	76180-96-6			GROUP 2							
153. KEPONE (CHLORDECONE)	143-50-0	N/A	ANTICIPATED					YES			
154. LEAD AND COMPOUNDS		1910.10 25 (noncarcinogen)	ANTICIPATED		YES	YES	YES	YES			
155. LINDANE AND OTHER HEXACHLOROCYCLOHEXANE ISOMERS	58-89-9	N/A	ANTICIPATED							.05	X
156. MALONONITRILE	2698-41-1								.005	.04	
157. MERCURY AND COMPOUNDS	7439-97-				YES		YES			2	

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
	6										
158. METHIMAZOLE					YES						
159. METHYL CHLOROMETHYL ETHER		1910.10 06									
160. METHYL HYDRAZINE (MONOMETHYL HYDRAZINE)	60-34-4								.02 (C)	.035 (C)	X
161. METHYL ISOCYANATE	624-83-9								.002	.005	X
162. METHYL METHANESULFONATE	66-27-3	N/A	ANTICIPATE D								
163. METHYLENE BISPHENYL ISOCYANATE (MDI)	101-68-8								.002 (C)	.02 (C)	
164. METHYLENEDIANILINE		1910.10 50									
165. MIREX	2385-85- 5	N/A	ANTICIPATE D				YES				
166. MOLYBDENUM AND COMPOUNDS	7439-98- 7									5	
167. MONOMETHYL ANILINE	100-61-8								2	9	X
168. MUSTARD GAS (SULFUR MUSTARD)	505-60-2	N/A	KNOWN	GROUP 1							
169. N,N-BIS(2-CHLOROETHYL)-2-NAPHTHYLAMINE (CHLORNAPHAZINE)	494-03-1			GROUP 1							
170. NAPHTHYL METHYL CARBAMATE							YES				
171. N-ETHYL-N-NITROSOUREA	759-73-9			GROUP 2							
172. NITRILOTRIACETIC ACID	139-13-9	N/A	ANTICIPATE D								
173. NITROBENZENE	98-95-3								1	5	X
174. NITROFEN	1836-75- 5	N/A	ANTICIPATE D								
175. NITROGEN MUSTARD	51-75-2			GROUP 2							
176. NITROGEN MUSTARD HYDROCHLORIDE	55-86-7	N/A	ANTICIPATE D								
177. NITROTOLUENE (ALL									5	30	X

Written: August 1999
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Chemical Agent	CASRN	CARCINOGENIC			REPRODUCTIVE HAZARD				EXPOSURE LIMITS (PEL)		
		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
ISOMERS)											
178. N-METHYL-N'-NITRO-N-NITROSOGUANIDINE (MNNG)	70-25-7		ANTICIPATE D	GROUP 2							
179. N-METHYL-N-NITROSOUREA	684-93-5			GROUP 2							
180. NITROSAMINE COMPOUNDS INCLUDING BUT NOT LIMITED TO:											
• N-NITROSODIETHANOLAMINE	1116-54-7	N/A	ANTICIPATE D								
• N-NITROSODIETHYLAMINE	55-18-5	N/A	ANTICIPATE D	GROUP 2							
• N-NITROSODIETHYLAMINE	55-18-5										
• N-NITROSODIMETHYLAMINE	62-75-9	1910.10 16	ANTICIPATE D	GROUP 2							
• N-NITROSODI-N-BUTYLAMINE	924-16-3	N/A	ANTICIPATE D								
• N-NITROSODI-N-PROPYLAMINE	621-64-7	N/A	ANTICIPATE D								
• N-NITROSOMETHYL-VINYLAMINE	4549-40-0	N/A	ANTICIPATE D								
• N-NITROSOMORPHOLINE	59-89-2	N/A	ANTICIPATE D								
• N-NITROSO-N-ETHYLUREA	759-73-9	N/A	ANTICIPATE D								
• N-NITROSO-N-METHYLUREA	684-93-5	N/A	ANTICIPATE D								
• N-NITROSONORNICOTINE	16543-55-8	N/A	ANTICIPATE D								
• N-NITROSOPIPERIDINE	100-75-4	N/A	ANTICIPATE D								
• N-NITROSOPYRROLIDINE	930-55-2	N/A	ANTICIPATE D								
• N-NITROSOSARCOSINE	13256-22-9	N/A	ANTICIPATE D								
181. NORETHISTERONE	68-22-4	N/A	ANTICIPATE D								
182. o-AMINOAZOTOLUENE	97-56-3	N/A	ANTICIPATE								

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
			D								
183. o-ANISIDINE HYDROCHLORIDE	134-29-2	N/A	ANTICIPATE D								
184. OCHRATOXIN A	303-47-9	N/A	ANTICIPATE D								
185. OXYGEN DIFLUORIDE	7783-41-7								.005	.01	
186. OZONE	10028-15-6								.01	.02	
187. PARA-CHLORO-ORTHO-TOLUIDINE AND ITS STRONG ACID SALTS`	95-69-2			GROUP 2							
188. PARAMETHADIONE					YES						
189. PARAQUAT (RESPIRABLE DUST)	4685-14-7 1910-42-5 2074-50-2									.05	X
190. PARATHION	56-38-2									.01	X
191. p-CRESIDINE	120-71-8	N/A	ANTICIPATE D								
192. PENTABORANE	19624-22-7								0.005	.001	
193. PENTACHLORONAPHTHALENE	1321-64-8									.05	X
194. PENTACHLOROPHENOL	87-86-5									.05	X
195. PERCHLOROMETHYL MERCAPTAN	594-42-3									5	
196. PERCHLORYL FLUORIDE	7616-94-6							YES		2	
197. PHENACETIN	62-44-2								.01	.06	
198. PHENAZOPYRIDINE HYDROCHLORIDE	136-40-3								3	135	
199. PHENOXYBENZAMINE HYDROCHLORIDE	63-92-3	N/A	ANTICIPATE D								
200. PHENYL ETHER-BIPHENYL MIXTURE, VAPOR		N/A	ANTICIPATE D						1	7	

Written: August 1999
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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
201. PHOSGENE (CARBONYL CHLORIDE)	75-44-5	N/A	ANTICIPATED		YES				.01	.04	
202. PHOSPHINE	7803-51-2								.03	.04	
203. PHOSPHORUS (YELLOW)	7723-14-0									.01	
204. PHOSPHORUS PENTACHLORIDE	10026-13-8									1	
205. PHOSPHORUS PENTASULFIDE	1314-80-3									1	
206. PHOSPHORUS TRICHLORIDE	7719-12-2								.05	3	
207. PHTHALIC ANHYDRIDE	85-44-9								2	2	
208. PICLORAM	1918-02-1									5	
209. PINDONE (2-PIVALYL-1, 3-INDANDIONE)	83-26-1									.01	
210. P-NITROANILINE	100-01-6								1	6	X
211. P-NITROCHLOROBENZENE	100-00-5									1	X
212. POLYBROMINATED BIPHENYLS											
213. POLYCHLORINATED BIPHENYLS											
214. POLYCYCLIC AROMATIC HYDROCARBON (PAH) COMPOUNDS. INCLUDING BUT NOT LIMITED TO:											
• ACENAPHTHENE				GROUP 2							
• ACENAPHTHYLENE				GROUP 2							
• ANTHRACENE				GROUP 2							
• BENZO(A)ANTHRACENE	56-55-3			GROUP 2							
• BENZOAPYRENE	50-32-8			GROUP 2							

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Revised: August 2002

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
• BENZO(B)FLUORANTHENE				GROUP 2							
• BENZO(K)FLUORANTHENE				GROUP 2							
• BENZO(G,H,I)PERYLENE				GROUP 2							
• CHRYSENE				GROUP 2							
• DIBENZ(A,H)ANTHRACENE				GROUP 2							
• FLUORANTHENE				GROUP 2							
• FLUORENE				GROUP 2							
• INDENO(1,2,3-CD)PYRENE				GROUP 2							
• PHENANTHRENE				GROUP 2							
• PYRENE				GROUP 2							
215. P-PHENYLENE DIAMINE	106-50-3									.01	X
216. PROCARBAZINE HYDROCHLORIDE	366-70-1	N/A	ANTICIPATE D								
217. PROPYLENE IMINE	75-55-8	N/A	ANTICIPATE D						2	5	X
218. PROPYLENE OXIDE	75-56-9										
219. PROPYLTHIOURACIL	51-52-5										
220. PYRETHRUM	8003-34-7	N/A	ANTICIPATE D	GROUP 2						5	
221. RESERPINE	50-55-5										
222. RETINOIC ACID, 1,3-CIS-											
223. SAFROLE	94-59-7										
224. STRYCHNINE	57-24-9									.015	
225. STYRENE	100-42-5									2	
226. STYRENE-7,8-OXIDE	96-09-3										
227. SULFALLATE	95-06-7	N/A	ANTICIPATE D								

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		OSHA Section	NTP	IARC GROUP	TERAT	MUTA	STE R.	LAC T.	PPM	MG/M ³	SKIN
228. SULFUR DIOXIDE	7446-09-5								5	13	
229. SULFUR PENTAFLUORIDE	5714-22-7			GROUP 2					.0025	.025	
230. SULFURYL FLUORIDE	2699-79-8	N/A	ANTICIPATED						5	20	
231. TELLURIUM HEXAFLUORIDE (AS TE)	7783-80-4			GROUP 1					.002	.02	
232. TEPP (TETRAETHYL PYROPHOSPHATE)	107-49-3									.005	X
233. TERT-BUTYL CHROMATE	1189-85-1									.01 (C)	X
234. TETRACHLOROETHYLENE (PERCHLOROETHYLENE)	127-18-4							YES		2	
235. TETRACHLORONAPHTHALENE	1335-88-2									2	X
236. TETRAMETHYL SUCCINONITRILE	3333-52-6	N/A	ANTICIPATED	GROUP 2					.05	3	X
237. TETRANITROMETHANE	509-14-8								1	8	
238. THALIDOMIDE					YES						
239. THIOUREA	62-56-6	N/A	ANTICIPATED								
240. THIRAM	137-26-8									5	
241. THORIUM DIOXIDE	1314-20-1									.01	X
242. TOLUENE DIISOCYANATE	26471-62-5										
243. TOLUENE-2, 4-DIISOCYANATE (TDI)	584-84-9	N/A	KNOWN								
244. TRICHLORONAPHTHALENE	1321-65-9	N/A	ANTICIPATED						.002 (C)	.01 (C)4	
245. TRIMETHADIONE		N/A	ANTICIPATED		YES						
246. TRIORTHOCRESYL PHOSPHATE	78-30-8			GROUP 1						.01	
247. TRIPHENYL PHOSPHATE	115-86-6									3	

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		OSHA Section	NTP	IARC GROUP	TERAT .	MUTA .	STER.	LACT.	PPM	MG/M ³	SKIN
248. TRIS(2,3-DIBROMOPROPYL) PHOSPHATE	126-72-7										
249. VALPROIC ACID		N/A	ANTICIPATED		YES						
250. VANADIUM AND COMPOUNDS	1314-02-1	N/A	ANTICIPATED	GROUP 2							
251. VINYL BROMIDE	593-60-2										
252. VINYL CHLORIDE	75-01-4					YES	YES				
253. VINYL FLUORIDE	75-02-5										
254. XYLIDINE	1300-73-8			GROUP 2					5	25	
255. YTTRIUM	7440-65-5	1910.10 17	KNOWN	GROUP 1		YES	YES			1	

CASRN – Chemical Abstracts Service Registry Number
OSHA – Occupational Safety and Health Administration
NTP – National Toxicology Program
IARC – International Agency for Research on Cancer

TERAT. – Teratogenic
MUTA. – Mutagenic
STER. – Ster/Infer
LACT. - Lactation