



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE
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JUL 17 2007

MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY
(ENVIRONMENT, SAFETY, AND OCCUPATIONAL
HEALTH)
DEPUTY ASSISTANT SECRETARY OF THE NAVY
(ENVIRONMENT)
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE
(ENVIRONMENT, SAFETY, AND OCCUPATIONAL
HEALTH)
STAFF DIRECTOR, ENVIRONMENT, SAFETY, AND
OCCUPATIONAL HEALTH, DEFENSE LOGISTICS
AGENCY ENTERPRISE SUPPORT (DES-E)

SUBJECT: Updated Human Health and Ecological Comparison Values

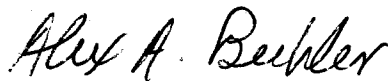
The Department of Defense (DoD) updated the attached Human Health and Ecological Comparison Values (hereinafter the Comparison Values) to continue its commitment to protect human health and the environment based on the latest toxicological research. The Comparison Values also include a comprehensive list of munitions constituents associated with materials unique to historical and present military training and testing activities. These values replace those contained in the Relative Risk Site Evaluation Primer (Summer 1997). Summaries describing the technical approaches used to develop the Comparison Values along with the values themselves may be found in Appendix B of the Primer for the Munitions Response Site Prioritization Protocol (MRSPP) and viewed at www.denix.osd.mil/mmrp.

The Comparison Values are to be used by the Components when applying the MRSPP to evaluate known or suspected hazards to human and ecological receptors at or near sites eligible for the Military Munitions Response Program. These Comparison Values should also be used to determine the relative risks potentially present at any new Installation Restoration Program (IRP) sites. The Comparison Values do not replace the need to perform a more comprehensive baseline risk assessment and should not be considered final cleanup goals or action levels.



This document was developed with the input and dedicated support of the Components. Your participation continues to advance the Department towards meeting its environmental restoration goals. Systematically and consistently prioritizing sites requiring cleanup is an important step towards achieving those goals.

My action officer for the Comparison Values is Mr. Vic Wieszek, who may be contacted at 703-571-9061 or victor.wieszek@osd.mil.



Alex A. Beehler

Assistant Deputy Under Secretary of Defense
(Environment, Safety, and Occupational Health)

Attachments:

As stated

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Acenaphthene		83-32-9	3.70E+03	nc	3.70E+02	nc
Acephate		30560-19-1	2.40E+02	nc**	1.50E+02	nc*
Acetaldehyde		75-07-0	5.00E+01	nc**	1.70E+02	ca
Acetochlor		34256-82-1	1.20E+03	nc	7.30E+02	nc
Acetone		67-64-1	1.40E+04	nc	5.50E+03	nc
Acetone cyanohydrin		75-86-5	4.90E+01	nc	2.90E+01	nc
Acetonitrile		75-05-8	4.20E+02	nc	1.00E+02	nc
Acetophenone		98-86-2	7.80E+03	nc	3.70E+03	nc
Acifluorfen	a	50594-66-6	8.50E+02	nc	4.70E+02	nc
Acrolein		107-02-8	1.00E-01	nc	4.20E-02	nc
Acrylamide		79-06-1	1.10E+01	ca	1.50E+00	ca
Acrylic acid		79-10-7	2.90E+04	nc	1.80E+04	nc
Acrylonitrile		107-13-1	7.30E+00	nc**	3.70E+00	nc*
Adamsite	a, g	578-94-9	3.60E+03	ca	NA	NA
Alachlor		15972-60-8	6.00E+02	ca	8.40E+01	ca
Alar		1596-84-5	9.20E+03	nc	5.50E+03	nc
Aldicarb		116-06-3	6.10E+01	nc	3.60E+01	nc
Aldicarb sulfone		1646-88-4	6.10E+01	nc	3.60E+01	nc
Aldrin		309-00-2	1.80E+00	nc**	4.00E-01	ca
Allyl		74223-64-6	1.50E+04	nc	9.10E+03	nc
Allyl alcohol		107-18-6	3.10E+02	nc	1.80E+02	nc
Allyl chloride		107-05-1	3.00E+03	nc	1.80E+03	nc
Aluminum	h	7429-90-5	7.60E+04	nc	3.60E+04	nc
Aluminum phosphide		20859-73-8	3.10E+01	nc	1.50E+01	nc
Amdro		67485-29-4	1.80E+01	nc	1.10E+01	nc
Ametryn		834-12-8	5.50E+02	nc	3.30E+02	nc
Aminodinitrotoluene		1321-12-6	1.20E+02	nc	7.30E+01	nc
m-Aminophenol		591-27-5	4.30E+03	nc	2.60E+03	nc
4-Aminopyridine		504-24-5	1.20E+00	nc	7.30E-01	nc
Amtraz		33089-61-1	1.50E+02	nc	9.10E+01	nc
Ammonia		7664-41-7	NA	NA	2.10E+02	nc
Ammonium perchlorate	e	7790-98-9	5.50E+01	nc	2.50E+01	nc
Ammonium sulfamate		7773-06-0	1.20E+04	nc	7.30E+03	nc
Aniline		62-53-3	4.30E+02	nc**	2.60E+02	nc*
Anthracene		120-12-7	2.20E+04	nc	1.80E+03	nc
Antimony and compounds	h	7440-36-0	3.10E+01	nc	1.50E+01	nc
Antimony pentoxide		1314-60-9	3.90E+01	nc	1.80E+01	nc
Antimony Potassium Tartrate		28300-74-5	7.00E+01	nc	3.30E+01	nc
Antimony Tetroxide		1332-81-6	3.10E+01	nc	1.50E+01	nc
Antimony Trioxide		1309-64-4	3.10E+01	nc	1.50E+01	nc
Apollo		74115-24-5	7.90E+02	nc	4.70E+02	nc
Aramite		140-57-8	1.90E+03	ca	2.70E+02	ca
Aroclor-1016		12674-11-2	3.90E+00	nc	2.60E+00	nc
Aroclor-1221		11104-28-2	2.20E+01	ca	3.30E+00	ca
Aroclor-1232		11141-16-5	2.20E+01	ca	3.30E+00	ca
Aroclor-1242		53469-21-9	2.20E+01	ca	3.30E+00	ca
Aroclor-1248		12672-29-6	2.20E+01	ca	3.30E+00	ca
Aroclor-1254		11097-69-1	1.10E+00	nc**	7.30E-01	nc*
Aroclor-1260		11096-82-5	2.20E+01	ca	3.30E+00	ca
Arsenic	h	7440-38-2	2.20E+01	nc*	4.50E+00	ca
Arsine	a	7784-42-1	3.60E+03	ca	NA	NA
Assure		76578-14-8	5.50E+02	nc	3.30E+02	nc
Asulam		3337-71-1	3.10E+03	nc	1.80E+03	nc
Atrazine		1912-24-9	2.20E+02	ca	3.00E+01	ca
Avermectin B1		71751-41-2	2.40E+01	nc	1.50E+01	nc
Azobenzene		103-33-3	4.40E+02	ca	6.10E+01	ca
Barium and compounds		7440-39-3	1.60E+04	nc	7.30E+03	nc
Barium Cyanide		542-62-1	7.80E+03	nc	3.70E+03	nc
Baygon		114-26-1	2.40E+02	nc	1.50E+02	nc
Bayleton		43121-43-3	1.80E+03	nc	1.10E+03	nc
Baythroid		68359-37-5	1.50E+03	nc	9.10E+02	nc
Benefin		1861-40-1	1.80E+04	nc	1.10E+04	nc
Benomyl		17804-35-2	3.10E+03	nc	1.80E+03	nc
Bentazon		25057-89-0	1.80E+03	nc	1.10E+03	nc
Benz[a]anthracene		56-55-3	6.20E+01	ca	9.20E+00	ca
Benzaldehyde		100-52-7	6.10E+03	nc	3.60E+03	nc
Benzene		71-43-2	3.30E+01	nc*	3.50E+01	ca
Benzenethiol		108-98-5	7.80E-01	nc	3.70E-01	nc
Benzidine		92-87-5	2.10E-01	ca	2.90E-02	ca
Benzo[a]pyrene		50-32-8	6.20E+00	ca	9.10E-01	ca

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Benzo[b]fluoranthene		205-99-2	6.20E+01	ca	9.20E+00	ca
Benzo(j)Fluoranthene		205-82-3	3.80E+01	ca	5.50E+00	ca
Benzo[k]fluoranthene		207-08-9	6.20E+02	ca	9.20E+01	ca
Benzoic acid		65-85-0	1.00E+05	max	1.50E+05	nc
Benzotrchloride		98-07-7	3.70E+00	ca	5.20E-01	ca
Benzyl alcohol		100-51-6	3.10E+04	nc	1.80E+04	nc
Benzyl chloride		100-44-7	8.40E+01	nc*	6.60E+00	ca
Beryllium and compounds	h	7440-41-7	1.50E+02	nc	7.30E+01	nc
Bidrin		141-66-2	6.10E+00	nc	3.60E+00	nc
Biphenhrin (Talstar)		82657-04-3	9.20E+02	nc	5.50E+02	nc
1,1-Biphenyl		92-52-4	3.00E+03	nc	3.00E+02	nc
Bis(2-chloroethyl)ether		111-44-4	2.20E+01	ca	1.00E+00	ca
Bis(2-chloroisopropyl)ether		108-60-1	2.90E+02	ca	2.70E+01	ca
Bis(chloromethyl)ether		542-88-1	1.90E-02	ca	5.20E-03	ca
Bis(2-ethylhexyl)phthalate (DEHP)		117-81-7	1.20E+03	nc*	4.80E+02	ca
Bisphenol A		80-05-7	3.10E+03	nc	1.80E+03	nc
Boron		7440-42-8	1.60E+04	nc	7.30E+03	nc
Boron trifluoride		7637-07-2	1.00E+05	max	NA	NA
Bromate		15541-45-4	6.90E+01	ca	9.60E+00	ca
Bromobenzene		108-86-1	3.20E+01	nc	2.30E+01	nc
Bromodichloromethane		75-27-4	8.20E+01	ca	1.80E+01	ca
Bromoform (tribromomethane)		75-25-2	1.20E+03	nc*	7.30E+02	nc*
Bromomethane (Methyl bromide)		74-83-9	3.90E+00	nc	8.70E+00	nc
4-Bromophenyl Phenyl Ether	a	101-55-3	4.50E+03	nc	2.10E+03	nc
Bromophos		2104-96-3	3.10E+02	nc	1.80E+02	nc
Bromoxynil		1689-84-5	1.20E+03	nc	7.30E+02	nc
Bromoxynil octanoate		1689-99-2	1.20E+03	nc	7.30E+02	nc
1,3-Butadiene		106-99-0	8.40E-01	nc*	3.50E+00	nc*
1-Butanol		71-36-3	6.10E+03	nc	3.70E+03	nc
Butyl benzyl phthalate		85-68-7	1.20E+04	nc	7.30E+03	nc
Butylate		2008-41-5	3.10E+03	nc	1.80E+03	nc
n-Butylbenzene		104-51-8	1.40E+02	nc	6.10E+01	nc
sec-Butylbenzene		135-98-8	1.10E+02	nc	6.10E+01	nc
tert-Butylbenzene		98-06-6	1.30E+02	nc	6.10E+01	nc
Butylphthalyl butylglycolate		85-70-1	6.10E+04	nc	3.60E+04	nc
Cacodylic Acid		75-60-5	1.80E+01	nc	1.10E+01	nc
Cadmium and compounds		7440-43-9	3.90E+01	nc	1.80E+01	nc
Calcium Cyanide		592-01-8	3.10E+03	nc	1.50E+03	nc
Caprolactam		105-60-2	3.10E+04	nc	1.80E+04	nc
Captafol		2425-06-1	1.20E+02	nc**	7.30E+01	nc**
Captan		133-06-2	7.90E+03	nc*	1.90E+03	ca
Carbaryl		63-25-2	6.10E+03	nc	3.60E+03	nc
Carbazole		86-74-8	2.40E+03	ca	3.40E+02	ca
Carbofuran		1563-66-2	3.10E+02	nc	1.80E+02	nc
Carbon disulfide		75-15-0	3.60E+02	nc	1.00E+03	nc
Carbon tetrachloride		56-23-5	2.40E+01	ca	1.70E+01	ca
Carbosulfan		55285-14-8	6.10E+02	nc	3.60E+02	nc
Carboxin		5234-68-4	6.10E+03	nc	3.60E+03	nc
Chloral Hydrate		302-17-0	7.80E+03	nc	3.70E+03	nc
Chloramben		133-90-4	9.20E+02	nc	5.50E+02	nc
Chloranil		118-75-2	1.20E+02	ca	1.70E+01	ca
Chlordane		12789-03-6	3.50E+01	nc*	1.80E+01	nc*
Chlorimuron-ethyl		90982-32-4	1.20E+03	nc	7.30E+02	nc
Chlorine		7782-50-5	7.80E+03	nc	3.70E+03	nc
Chloroacetaldehyde	a	107-20-0	5.40E+02	nc	2.50E+02	nc
Chlorine dioxide		10049-04-4	1.80E+03	nc	1.10E+03	nc
Chloroacetic acid		79-11-8	1.20E+02	nc	7.30E+01	nc
2-Chloroacetophenone		532-27-4	3.30E-02	nc	5.20E-02	nc
4-Chloroaniline		106-47-8	2.40E+02	nc	1.50E+02	nc
Chlorobenzene		108-90-7	1.30E+02	nc	9.10E+01	nc
Chlorobenzilate		510-15-6	1.80E+02	ca	2.50E+01	ca
p-Chlorobenzoic acid		74-11-3	1.20E+04	nc	7.30E+03	nc
4-Chlorobenzotrifluoride		98-56-6	1.20E+03	nc	7.30E+02	nc
2-Chloro-1,3-butadiene		126-99-8	3.60E+00	nc	1.40E+01	nc
1-Chlorobutane		109-69-3	4.80E+02	sat	2.40E+03	nc
1-Chloro-1,1-difluoroethane (HCFC-142b)		75-68-3	3.40E+02	sat	8.70E+04	nc
Chlorodifluoromethane		75-45-6	3.40E+02	sat	8.50E+04	nc
Chloroethane		75-00-3	3.00E+02	ca	4.60E+02	ca
tris(2-Chloroethyl)amine (HN3)	g, k	555-77-1	4.30E-01	nc	2.60E-01	nc

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
bis(2-Chloroethyl)ethylamine (HN1)	g, k	538-07-8	4.30E-01	nc	2.60E-01	nc
2-Chloroethyl Vinyl Ether	a	110-75-8	2.00E+03	nc	1.50E+02	nc
Chloroform		67-66-3	2.20E+01	ca	1.70E+01	ca
Chloromethane (methyl chloride)		74-87-3	4.70E+01	nc	1.60E+02	nc
4-Chloro-2-methylaniline		95-69-2	8.40E+01	ca	1.20E+01	ca
4-Chloro-2-methylaniline hydrochloride		3165-93-3	1.10E+02	ca	1.50E+01	ca
beta-Chloronaphthalene		91-58-7	4.90E+03	nc	4.90E+02	nc
o-Chloronitrobenzene		88-73-3	1.40E+00	nc	1.50E-01	nc
p-Chloronitrobenzene		100-00-5	1.00E+01	nc	1.20E+00	nc
2-Chlorophenol		95-57-8	6.30E+01	nc	3.00E+01	nc
Chloropicrin	a, f	76-06-2	1.60E+02	nc	NA	NA
2-Chloropropane		75-29-6	1.70E+02	nc	1.70E+02	nc
Chloroethalonil		1897-45-6	9.20E+02	nc*	5.50E+02	nc**
o-Chlorotoluene		95-49-8	1.60E+02	nc	1.20E+02	nc
p-Chlorotoluene		106-43-4	5.50E+03	nc	2.60E+03	nc
2-Chlorovinyl Arsenous Acid	b, g	85090-33-2	6.10E+00	nc	3.70E+00	nc
Chlorpropham		101-21-3	1.20E+04	nc	7.30E+03	nc
Chlorpyrifos		2921-88-2	1.80E+02	nc	1.10E+02	nc
Chlorpyrifos-methyl		5598-13-0	6.10E+02	nc	3.60E+02	nc
Chlorsulfuron		64902-72-3	3.10E+03	nc	1.80E+03	nc
Chlorthiophos		60238-56-4	4.90E+01	nc	2.90E+01	nc
Total Chromium (1:6 ratio Cr VI:Cr III)	i	MRSPP-01	1.60E+03	nc	NA	NA
Chromium III		16065-83-1	1.00E+05	max	5.50E+04	nc
Chromium VI		18540-29-9	2.30E+02	nc**	1.10E+02	nc
Chrysene		218-01-9	6.20E+03	ca	9.20E+02	ca
Cobalt	h	7440-48-4	1.40E+03	nc*	7.30E+02	nc
Coke Oven Emissions		8007-45-2	4.00E+05	ca	NA	NA
Copper and compounds	h	7440-50-8	3.10E+03	nc	1.50E+03	nc
Copper Cyanide		544-92-3	3.90E+02	nc	1.80E+02	nc
Crotonaldehyde		123-73-9	5.30E-01	ca	5.90E-01	ca
Cumene (isopropylbenzene)		98-82-8	5.70E+02	nc	6.60E+02	nc
Cyanazine		21725-46-2	5.80E+01	ca	8.00E+00	ca
Cyanide (free)		57-12-5	1.20E+03	nc	7.30E+02	nc
Potassium Cyanide		151-50-8	3.90E+03	nc	1.80E+03	nc
Sodium Cyanide		143-33-9	3.10E+03	nc	1.50E+03	nc
Cyanogen		460-19-5	1.30E+02	nc	2.40E+02	nc
Cyanogen bromide		506-68-3	2.90E+02	nc	5.50E+02	nc
Cyanogen chloride	b	506-77-4	2.30E+03	nc	1.10E+03	nc
Cyclohexane		110-82-7	1.40E+02	sat	1.00E+04	nc
Cyclohexanone		108-94-1	1.00E+05	max	1.80E+05	nc
Cyclohexylamine		108-91-8	1.20E+04	nc	7.30E+03	nc
Cyhalothrin/Karate		68085-85-8	3.10E+02	nc	1.80E+02	nc
Cypermethrin		52315-07-8	6.10E+02	nc	3.60E+02	nc
Cyromazine		66215-27-8	4.60E+02	nc	2.70E+02	nc
Dacthal		1861-32-1	6.10E+02	nc	3.60E+02	nc
Dalapon		75-99-0	1.80E+03	nc	1.10E+03	nc
Danitol		39515-41-8	1.50E+03	nc	9.10E+02	nc
DDD		72-54-8	2.40E+02	ca	2.80E+01	ca
DDE		72-55-9	1.70E+02	ca	2.00E+01	ca
DDT		50-29-3	3.60E+01	nc*	1.80E+01	nc**
Decabromodiphenyl ether		1163-19-5	6.10E+02	nc	3.60E+02	nc
Demeton		8065-48-3	2.40E+00	nc	1.50E+00	nc
Diallate		2303-16-4	8.00E+02	ca	1.10E+02	ca
Diazinon		333-41-5	5.50E+01	nc	3.30E+01	nc
Dibenz[ah]anthracene		53-70-3	6.20E+00	ca	9.20E-01	ca
Dibenz(a,h)Acridine		226-36-8	3.80E+01	ca	5.50E+00	ca
Dibenz(a,j)Acridine		224-42-0	3.80E+01	ca	5.50E+00	ca
7H-Dibenzo(c,g)Carbazole		194-59-2	3.80E+00	ca	5.50E-01	ca
Dibenzofuran		132-64-9	1.50E+02	nc	1.20E+01	nc
Dibenzo(a,e)Pyrene		192-65-4	3.80E+00	ca	5.50E-01	ca
Dibenzo(a,h)Pyrene		189-64-0	3.80E-01	ca	5.50E-02	ca
Dibenzo(a,i)Pyrene		189-55-9	3.80E-01	ca	5.50E-02	ca
Dibenzo(a,l)Pyrene		191-30-0	3.80E-01	ca	5.50E-02	ca
1,4-Dibromobenzene		106-37-6	6.10E+02	nc	3.60E+02	nc
Dibromochloromethane		124-48-1	1.10E+02	ca	1.30E+01	ca
1,2-Dibromo-3-chloropropane (DBCP)		96-12-8	1.40E+00	ca	6.30E-02	ca
1,2-Dibromoethane (EDB)		106-93-4	3.20E+00	ca	5.60E-01	ca

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Dibutyl phthalate		84-74-2	6.10E+03	nc	3.60E+03	nc
Dicamba		1918-00-9	1.80E+03	nc	1.10E+03	nc
1,2-Dichlorobenzene		95-50-1	6.00E+02	sat	3.70E+02	nc
1,3-Dichlorobenzene		541-73-1	5.30E+02	nc	1.80E+02	nc
1,4-Dichlorobenzene		106-46-7	3.40E+02	ca	5.00E+01	ca
3,3-Dichlorobenzidine		91-94-1	1.10E+02	ca	1.50E+01	ca
4,4'-Dichlorobenzophenone		90-98-2	1.80E+03	nc	1.10E+03	nc
1,4-Dichloro-2-butene		764-41-0	7.90E-01	ca	1.20E-01	ca
Dichlorodifluoromethane		75-71-8	9.40E+01	nc	3.90E+02	nc
2,2'-Dichlorodiisopropyl ether (bis(2-chloroisopropyl) ether)		39638-32-9	2.90E+02	ca	2.70E+01	ca
1,1-Dichloroethane		75-34-3	6.20E+02	nc	9.10E+02	nc
1,2-Dichloroethane (EDC)		107-06-2	1.10E+01	nc	1.00E+01	nc
1,2-Dichloroethylene (cis)		156-59-2	4.30E+01	nc	6.10E+01	nc
1,2-Dichloroethylene (total)		540-59-0	7.00E+02	nc	3.30E+02	nc
1,2-Dichloroethylene (trans)		156-60-5	6.90E+01	nc	1.20E+02	nc
1,1-Dichloroethylene		75-35-4	1.20E+02	nc	3.40E+02	nc
2,4-Dichlorophenol		120-83-2	1.80E+02	nc	1.10E+02	nc
4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)		94-82-6	4.90E+02	nc	2.90E+02	nc
2,4-Dichlorophenoxyacetic Acid (2,4-D)		94-75-7	6.90E+02	nc	3.60E+02	nc
1,2-Dichloropropane		78-87-5	6.00E+00	nc*	6.90E+00	nc**
2,3-Dichloropropanol		616-23-9	1.80E+02	nc	1.10E+02	nc
1,3-Dichloropropane		142-28-9	1.00E+02	nc	1.20E+02	nc
1,3-Dichloropropene		542-75-6	7.80E+01	ca	4.00E+01	ca
Dichlorvos		62-73-7	3.10E+01	nc*	1.80E+01	nc**
Dicofol		115-32-2	1.10E+02	ca	1.50E+01	ca
Dicyclopentadiene		77-73-6	1.90E+01	nc	1.40E+01	nc
Dieldrin		60-57-1	3.00E+00	ca	4.20E-01	ca
Diethyl phthalate		84-66-2	4.90E+04	nc	2.90E+04	nc
Diethylene glycol, monobutyl ether		112-34-5	6.10E+02	nc	3.60E+02	nc
Diethylene glycol, monoethyl ether		111-90-0	3.70E+03	nc	2.20E+03	nc
Diethylformamide		617-84-5	2.40E+01	nc	1.50E+01	nc
Di(2-ethylhexyl)adipate		103-23-1	4.10E+04	ca	5.60E+03	ca
Diethylstilbestrol		56-53-1	1.00E-02	ca	1.40E-03	ca
Difenzoquat (Avenge)		43222-48-6	4.90E+03	nc	2.90E+03	nc
Diflubenzuron		35367-38-5	1.20E+03	nc	7.30E+02	nc
1,1-Difluoroethane		75-37-6	NA	NA	6.90E+04	nc
Diisononyl phthalate		28553-12-0	1.20E+03	nc	7.30E+02	nc
Diisopropyl methylphosphonate	g	1445-75-6	4.90E+03	nc	2.90E+03	nc
S-(2-diisopropylaminoethyl)-methylphosphonothioic acid	b	73207-98-4	4.70E-02	nc	2.20E-02	nc
Dimethipin		55290-64-7	1.20E+03	nc	7.30E+02	nc
Dimethoate		60-51-5	1.20E+01	nc	7.30E+00	nc
3,3'-Dimethoxybenzidine		119-90-4	3.50E+03	ca	4.80E+02	ca
Dimethylamine		124-40-3	6.70E-02	nc	3.50E-02	nc
2,4-Dimethylaniline		95-68-1	6.50E+01	ca	9.00E+00	ca
2,4-Dimethylaniline hydrochloride		21436-96-4	8.40E+01	ca	1.20E+01	ca
N,N-Dimethylaniline		121-69-7	1.20E+02	nc	7.30E+01	nc
7,12-Dimethylbenzanthracene	a	57-97-6	6.10E+01	ca	NA	NA
3,3'-Dimethylbenzidine		119-93-7	2.10E+01	ca	2.90E+00	ca
N,N-Dimethylformamide		68-12-2	6.10E+03	nc	3.60E+03	nc
Dimethylphenethylamine		122-09-8	6.10E+01	nc	3.60E+01	nc
1,2-Dimethylhydrazine		540-73-8	1.30E+00	ca	1.80E-01	ca
2,4-Dimethylphenol		105-67-9	1.20E+03	nc	7.30E+02	nc
2,6-Dimethylphenol		576-26-1	3.70E+01	nc	2.20E+01	nc
3,4-Dimethylphenol		95-65-8	6.10E+01	nc	3.60E+01	nc
Dimethyl phthalate		131-11-3	1.00E+05	max	3.60E+05	nc
Dimethyl terephthalate		120-61-6	6.10E+03	nc	3.60E+03	nc
4,6-Dinitro-o-cresol		534-52-1	6.10E+00	nc	3.60E+00	nc
4,6-Dinitro-o-cyclohexyl phenol		131-89-5	1.20E+02	nc	7.30E+01	nc
1,2-Dinitrobenzene		528-29-0	6.10E+00	nc	3.60E+00	nc
1,3-Dinitrobenzene		99-65-0	6.10E+00	nc	3.60E+00	nc
1,4-Dinitrobenzene		100-25-4	6.10E+00	nc	3.60E+00	nc
2,4-Dinitrophenol		51-28-5	1.20E+02	nc	7.30E+01	nc
1,6-Dinitropyrene		42397-64-8	3.80E-01	ca	5.50E-02	ca
1,8-Dinitropyrene	a	42397-65-9	6.10E+01	ca	NA	NA
Dinitrotoluene mixture		25321-14-6	7.20E+01	ca	9.90E+00	ca
2,4-Dinitrotoluene	f	121-14-2	1.20E+02	nc	7.30E+01	nc

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
2,6-Dinitrotoluene	f	606-20-2	6.10E+01	nc	3.60E+01	nc
Dinoseb		88-85-7	6.10E+01	nc	3.60E+01	nc
di-n-Octyl phthalate		117-84-0	2.40E+03	nc	1.50E+03	nc
1,4-Dioxane		123-91-1	4.40E+03	ca	6.10E+02	ca
Diphenamid		957-51-7	1.80E+03	nc	1.10E+03	nc
Diphenylamine		122-39-4	1.50E+03	nc	9.10E+02	nc
N,N-Diphenyl-1,4 benzenediamine (DPPD)		74-31-7	1.80E+01	nc	1.10E+01	nc
1,2-Diphenylhydrazine		122-66-7	6.10E+01	ca	8.40E+00	ca
Diphenyl sulfone		127-63-9	1.80E+02	nc	1.10E+02	nc
Diquat		85-00-7	1.30E+02	nc	8.00E+01	nc
Direct black 38		1937-37-7	5.70E+00	ca	7.80E-01	ca
Direct blue 6		2602-46-2	6.00E+00	ca	8.30E-01	ca
Direct brown 95		16071-86-6	5.20E+00	ca	7.20E-01	ca
Disulfoton		298-04-4	2.40E+00	nc	1.50E+00	nc
1,4-Dithiane	j	505-29-3	6.10E+02	nc	3.60E+02	nc
Diuron		330-54-1	1.20E+02	nc	7.30E+01	nc
Dodine		2439-103	2.40E+02	nc	1.50E+02	nc
Dysprosium		7429-91-6	7.80E+03	nc	3.60E+03	nc
Endosulfan		115-29-7	3.70E+02	nc	2.20E+02	nc
Endothal		145-73-3	1.20E+03	nc	7.30E+02	nc
Endrin		72-20-8	1.80E+01	nc	1.10E+01	nc
Epichlorohydrin		106-89-8	7.80E+00	nc	2.10E+00	nc
1,2-Epoxybutane		106-88-7	3.50E+02	nc	2.10E+02	nc
EPTC (S-Ethyl dipropylthiocarbamate)		759-94-4	1.50E+03	nc	9.10E+02	nc
Ethephon (2-chloroethyl phosphonic acid)		16672-87-0	3.10E+02	nc	1.80E+02	nc
Ethion		563-12-2	3.10E+01	nc	1.80E+01	nc
2-Ethoxyethanol		110-80-5	2.40E+04	nc	1.50E+04	nc
2-Ethoxyethanol acetate		111-15-9	1.80E+04	nc	1.10E+04	nc
Ethyl acetate		141-78-6	1.90E+04	nc	5.50E+03	nc
Ethyl acrylate		140-88-5	2.10E+01	ca	2.30E+01	ca
Ethyl ether		60-29-7	1.80E+03	sat	1.20E+03	nc
Ethyl methacrylate		97-63-2	1.40E+02	sat	5.50E+02	nc
Ethyl methylphosphonic acid (EMPA)	b	1832-53-7	1.50E+03	nc	9.10E+02	nc
Ethyl p-nitrophenyl phenylphosphorothioate		2104-64-5	6.10E-01	nc	3.60E-01	nc
o-Ethyl S-(2-diisopropylaminoethyl) Methylphosphonothioate (VX)	b	50782-69-9	3.70E-02	nc	2.20E-02	nc
Ethylbenzene		100-41-4	4.00E+02	sat	1.30E+03	nc
Ethylene cyanohydrin		109-78-4	1.80E+04	nc	1.10E+04	nc
Ethylene glycol		107-21-1	1.00E+05	max	7.30E+04	nc
Ethylene glycol, monobutyl ether		111-76-2	3.10E+04	nc	1.80E+04	nc
Ethylene oxide		75-21-8	1.40E+01	ca	2.40E+00	ca
Ethylene thiourea (ETU)		96-45-7	4.90E+00	nc**	2.90E+00	nc**
Ethylene diamine		107-15-3	5.50E+03	nc	3.30E+03	nc
Ethylphthalyl ethyl glycolate		84-72-0	1.00E+05	max	1.10E+05	nc
Express		101200-48-0	4.90E+02	nc	2.90E+02	nc
Fenamiphos		22224-92-6	1.50E+01	nc	9.10E+00	nc
Fluometuron		2164-17-2	7.90E+02	nc	4.70E+02	nc
Fluoranthene		206-44-0	2.30E+03	nc	1.50E+03	nc
Fluorene		86-73-7	2.70E+03	nc	2.40E+02	nc
Fluorine		7782-41-4	3.70E+03	nc	2.20E+03	nc
Fluorine (soluble fluoride)		16984-48-8	3.70E+03	nc	2.20E+03	nc
Fluoridone		59756-60-4	4.90E+03	nc	2.90E+03	nc
Flurprimidol		56425-91-3	1.20E+03	nc	7.30E+02	nc
Flutolanil		66332-96-5	3.70E+03	nc	2.20E+03	nc
Fluvalinate		69409-94-5	6.10E+02	nc	3.60E+02	nc
Folpet		133-07-3	6.10E+03	nc*	1.90E+03	ca
Fomesafen		72178-02-0	2.60E+02	ca	3.50E+01	ca
Fonofos		944-22-9	1.20E+02	nc	7.30E+01	nc
Formaldehyde		50-00-0	9.20E+03	nc	5.50E+03	nc
Formic Acid		64-18-6	1.00E+05	max	7.30E+04	nc
Fosetyl-al		39148-24-8	1.00E+05	max	1.10E+05	nc
Furan		110-00-9	2.50E+00	nc	6.10E+00	nc
Furazolidone		67-45-8	1.30E+01	ca	1.80E+00	ca
Furfural		98-01-1	1.80E+02	nc	1.10E+02	nc
Furium		531-82-8	9.70E-01	ca	1.30E-01	ca

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Furmecycloz		60568-05-0	1.60E+03	ca	2.20E+02	ca
Glufosinate-ammonium		77182-82-2	2.40E+01	nc	1.50E+01	nc
Glycidaldehyde		765-34-4	2.40E+01	nc	1.50E+01	nc
Glyphosate		1071-83-6	6.10E+03	nc	3.60E+03	nc
Haloxfop-methyl		69806-40-2	3.10E+00	nc	1.80E+00	nc
Harmony		79277-27-3	7.90E+02	nc	4.70E+02	nc
HCH (alpha)		319-84-6	9.00E+00	ca	1.10E+00	ca
HCH (beta)		319-85-7	3.20E+01	ca	3.70E+00	ca
Heptachlor		76-44-8	1.10E+01	ca	1.50E+00	ca
Heptachlor epoxide		1024-57-3	7.90E-01	nc*	4.70E-01	nc*
Hexabromobenzene		87-82-1	1.20E+02	nc	7.30E+01	nc
Hexachlorobenzene		118-74-1	3.00E+01	ca	4.20E+00	ca
Hexachlorobutadiene		87-68-3	1.20E+01	nc	7.30E+00	nc
Hexachlorocyclohexane (HCH)		608-73-1	3.20E+01	ca	3.70E+00	ca
Hexachlorocyclopentadiene		77-47-4	3.70E+02	nc	2.20E+02	nc
Hexachlorodibenzodioxin Mix		19408-74-3	7.80E-03	ca	1.10E-03	ca
Hexachloroethane		67-72-1	6.10E+01	nc**	3.60E+01	nc**
Hexachlorophene		70-30-4	1.80E+01	nc	1.10E+01	nc
Hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX)	f	13980-04-6	1.80E+02	nc*	6.10E+01	ca
1,6-Hexamethylene diisocyanate		822-06-0	1.70E-01	nc	1.00E-01	nc
n-Hexane		110-54-3	1.10E+02	sat	1.50E+03	nc
Hexazinone		51235-04-2	2.00E+03	nc	1.20E+03	nc
HMX	f	2691-41-0	3.10E+03	nc	1.80E+03	nc
Hydrazine, hydrazine sulfate		302-01-2	1.60E+01	ca	2.20E+00	ca
Hydrazine, monomethyl		60-34-4	1.60E+01	ca	2.20E+00	ca
Hydrazine, dimethyl		57-14-7	1.60E+01	ca	2.20E+00	ca
Hydrogen cyanide		74-90-8	1.10E+01	nc	6.20E+00	nc
Hydrogen sulfide		7783-06-4	1.80E+02	nc	1.10E+02	nc
p-Hydroquinone		123-31-9	8.70E+02	ca	1.20E+02	ca
Imazalil		35554-44-0	7.90E+02	nc	4.70E+02	nc
Imazaquin		81335-37-7	1.50E+04	nc	9.10E+03	nc
Iprodione		36734-19-7	2.40E+03	nc	1.50E+03	nc
Iron	i	7439-89-6	2.30E+04	nc	1.10E+04	nc
Isobutanol		78-83-1	1.30E+04	nc	1.80E+03	nc
Isophorone		78-59-1	1.20E+04	nc*	7.10E+03	ca
Isopropalin		33820-53-0	9.20E+02	nc	5.50E+02	nc
Isopropyl methyl phosphonic acid	g	1832-54-8	6.10E+03	nc	3.60E+03	nc
Isoxaben		82558-50-7	3.10E+03	nc	1.80E+03	nc
Kepone		143-50-0	6.10E+00	ca	8.30E-01	ca
Lactofen		77501-63-4	1.20E+02	nc	7.30E+01	nc
Lead	h, l	7439-92-1	4.00E+02	NA	1.50E+01	NA
Lead (tetraethyl)		78-00-2	6.10E-03	nc	3.60E-03	nc
Lewisite	b	541-25-3	6.10E+00	nc	3.70E+00	nc
HCH (gamma) Lindane		58-89-9	2.10E+01	nc*	5.20E+00	ca
Linuron		330-55-2	1.20E+02	nc	7.30E+01	nc
Lithium		7439-93-2	1.60E+03	nc	7.30E+02	nc
Londax		83055-99-6	1.20E+04	nc	7.30E+03	nc
Malathion		121-75-5	1.20E+03	nc	7.30E+02	nc
Maleic anhydride		108-31-6	6.10E+03	nc	3.60E+03	nc
Maleic hydrazide		123-33-1	1.70E+03	nc	3.00E+03	nc
Malononitrile		109-77-3	6.10E+00	nc	3.60E+00	nc
Mancozeb		8018-01-7	1.80E+03	nc	1.10E+03	nc
Maneb		12427-38-2	3.10E+02	nc*	1.10E+02	ca
Manganese and compounds		7439-96-5	3.30E+03	nc	1.70E+03	nc
Mephosfolan		950-10-7	5.50E+00	nc	3.30E+00	nc
Mepiquat chloride		24307-26-4	1.80E+03	nc	1.10E+03	nc
2-Mercaptobenzothiazole		149-30-4	1.70E+03	ca	2.30E+02	ca
Mercury and compounds		7487-94-7	2.30E+01	nc	1.10E+01	nc
Mercury (methyl)		22967-92-6	6.10E+00	nc	3.60E+00	nc
Merphos		150-50-5	1.80E+00	nc	1.10E+00	nc
Merphos oxide		78-48-8	1.80E+00	nc	1.10E+00	nc
Metalaxyl		57837-19-1	3.70E+03	nc	2.20E+03	nc
Methacrylonitrile		126-98-7	2.10E+00	nc	1.00E+00	nc
Methamidophos		10265-92-6	3.10E+00	nc	1.80E+00	nc
Methanol		67-56-1	3.10E+04	nc	1.80E+04	nc
Methidathion		950-37-8	6.10E+01	nc	3.60E+01	nc
Methomyl		16752-77-5	4.40E+01	nc	1.50E+02	nc
Methoxychlor		72-43-5	3.10E+02	nc	1.80E+02	nc
2-Methoxyethanol		109-86-4	6.10E+01	nc	3.60E+01	nc

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
2-Methoxyethanol acetate		110-49-6	1.20E+02	nc	7.30E+01	nc
2-Methoxy-5-nitroaniline		99-59-2	1.10E+03	ca	1.50E+02	ca
Methyl acetate		79-20-9	2.20E+04	nc	6.10E+03	nc
Methyl acrylate		96-33-3	7.00E+01	nc	1.80E+02	nc
Methylene bromide		74-95-3	6.70E+01	nc	6.10E+01	nc
Methylene chloride		75-09-2	9.00E+02	ca	4.20E+02	ca
Methyl Chlorocarbonate	a	79-22-1	6.50E+04	nc	3.70E+04	nc
Methyl ethyl ketone (2-Butanone)		78-93-3	2.20E+04	nc	7.00E+03	nc
Methyl isobutyl ketone		108-10-1	5.30E+03	nc	2.00E+03	nc
Methyl methacrylate		80-62-6	2.20E+03	nc	1.40E+03	nc
2-Methylnaphthalene		91-57-6	3.10E+02	nc	1.50E+02	nc
Methyl parathion		298-00-0	1.50E+01	nc	9.10E+00	nc
Methyl styrene (mixture)		25013-15-4	1.30E+02	nc	6.00E+01	nc
Methyl styrene (alpha)		98-83-9	6.80E+02	sat	4.30E+02	nc
Methyl tertbutyl ether (MTBE)		1634-04-4	3.10E+03	ca	1.00E+03	ca
2-Methylphenol		95-48-7	3.10E+03	nc	1.80E+03	nc
3-Methylphenol		108-39-4	3.10E+03	nc	1.80E+03	nc
4-Methylphenol		106-44-5	3.10E+02	nc	1.80E+02	nc
2-Methylaniline (o-toluidine)		95-53-4	2.00E+02	ca	2.80E+01	ca
2-Methylaniline hydrochloride		636-21-5	2.70E+02	ca	3.70E+01	ca
2-Methyl-4-chlorophenoxyacetic acid		94-74-6	3.10E+01	nc	1.80E+01	nc
4-(2-Methyl-4-chlorophenoxy) butyric acid		94-81-5	6.10E+02	nc	3.60E+02	nc
2-(2-Methyl-4-chlorophenoxy) propionic acid		93-65-2	6.10E+01	nc	3.60E+01	nc
2-(2-Methyl-1,4-chlorophenoxy) propionic acid		16484-77-8	6.10E+01	nc	3.60E+01	nc
5-Methylchrysene		3697-24-3	3.80E+00	ca	5.50E-01	ca
Methylcyclohexane		108-87-2	2.60E+03	nc	5.20E+03	nc
4,4'-Methylenebisbenzeneamine		101-77-9	1.90E+02	ca	2.70E+01	ca
4,4'-Methylene bis(2-chloroaniline)		101-14-4	1.20E+02	ca	6.60E+01	ca
4,4'-Methylene bis(N,N'-dimethyl)aniline		101-61-1	1.10E+03	ca	1.50E+02	ca
4,4'-Methylene diphenyl diisocyanate		101-68-8	1.00E+01	nc	6.20E+00	nc
Methyl Mercaptan		74-93-1	3.50E+01	nc	2.10E+01	nc
2-Methyl-5-nitroaniline		99-55-8	1.50E+03	ca	2.00E+02	ca
Methyl phosphonic acid	g	993-13-5	1.20E+02	nc	7.30E+01	nc
Metolaclor (Dual)		51218-45-2	9.20E+03	nc	5.50E+03	nc
Metribuzin		21087-64-9	1.50E+03	nc	9.10E+02	nc
Mirex		2385-85-5	1.20E+01	nc*	3.70E+00	ca
Molinate		2212-67-1	1.20E+02	nc	7.30E+01	nc
Molybdenum		7439-98-7	3.90E+02	nc	1.80E+02	nc
Monochloramine		10599-90-3	6.10E+03	nc	3.60E+03	nc
Naled		300-76-5	1.20E+02	nc	7.30E+01	nc
Naphthalene		91-20-3	5.60E+01	nc	6.20E+00	nc
2-Naphthylamine		91-59-8	2.50E+01	ca	3.70E+00	ca
Napropamide		15299-99-7	6.10E+03	nc	3.60E+03	nc
Nickel (soluble salts)	h, i	7440-02-0	1.60E+03	nc	7.30E+02	nc
Nickel refinery dust		MRSP-02	1.00E+06	ca	NA	NA
Nickel subsulfide	m	12035-72-2	1.10E+06	ca	NA	NA
Nitrapyrin	a	1929-82-4	9.20E+01	nc	5.50E+01	nc
Nitrate	l	14797-55-8	1.30E+05	nc	5.80E+04	nc
Nitric Oxide	a	10102-43-9	6.10E+03	nc	3.70E+03	nc
Nitrite	l	14797-65-0	7.80E+03	nc	3.70E+03	nc
5-Nitroacenaphthene		602-87-9	3.50E+02	ca	5.10E+01	ca
2-Nitroaniline		88-74-4	1.80E+02	nc	1.10E+02	nc
3-Nitroaniline		99-09-2	1.80E+01	nc	1.10E+01	nc*
4-Nitroaniline		100-01-6	1.80E+02	nc**	1.10E+02	nc*
6-Nitrochrysene		7496-02-8	3.80E-01	ca	5.50E-02	ca
2-Nitrofluorene		607-57-8	3.80E+02	ca	5.50E+01	ca
Nitrobenzene	f	98-95-3	2.00E+01	nc	3.40E+00	nc
Nitrofurantoin		67-20-9	4.30E+03	nc	2.60E+03	nc
Nitrofurazone		59-87-0	3.20E+01	ca	4.40E+00	ca
Nitrogen dioxide		10102-44-0	6.10E+04	nc	3.70E+04	nc
Nitroglycerin	f	55-63-0	1.00E+03	nc	4.70E+02	ca
Nitroguanidine		556-88-7	6.10E+03	nc	3.70E+03	nc
4-Nitrophenol		100-02-7	4.90E+02	nc	2.90E+02	nc
2-Nitropropane		79-46-9	5.20E+00	ca	1.20E-01	ca

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
1-Nitropyrene		5522-43-0	4.10E+01	ca	5.50E+00	ca
4-Nitropyrene		57835-92-4	4.10E+01	ca	5.50E+00	ca
N-Nitrosodibutylamine		924-16-3	2.40E+00	ca	2.00E-01	ca
N-Nitrosodiethanolamine		1116-54-7	1.70E+01	ca	2.40E+00	ca
N-Nitrosodiethylamine		55-18-5	3.20E-01	ca	4.50E-02	ca
N-Nitrosodimethylamine		62-75-9	4.90E-01	nc	1.30E-01	ca
N-Nitrosodiphenylamine		86-30-6	1.20E+03	nc*	7.30E+02	nc*
N-Nitrosodipropylamine		621-64-7	6.90E+00	ca	9.60E-01	ca
N-Nitroso-N-ethylurea		759-73-9	1.80E+00	nc	2.50E-01	ca
N-Nitroso-N-methylethylamine		10595-95-6	2.20E+00	ca	3.10E-01	ca
N-Nitrosopyrrolidine		930-55-2	2.30E+01	ca	3.20E+00	ca
m-Nitrotoluene	f	99-08-1	7.30E+02	nc	1.20E+02	nc
o-Nitrotoluene	f	88-72-2	8.80E+01	ca	4.90E+00	ca
p-Nitrotoluene	f	99-99-0	3.70E+02	nc*	6.10E+01	nc*
Norflurazon		27314-13-2	2.40E+03	nc	1.50E+03	nc
NuStar		85509-19-9	4.30E+01	nc	2.60E+01	nc
Octabromodiphenyl ether		32536-52-0	1.80E+02	nc	1.10E+02	nc
Octamethylpyrophosphoramidate		152-16-9	1.20E+02	nc	7.30E+01	nc
Oryzalin		19044-88-3	3.10E+03	nc	1.80E+03	nc
Oxadiazon		19666-30-9	3.10E+02	nc	1.80E+02	nc
Oxamyl		23135-22-0	1.50E+03	nc	9.10E+02	nc
Oxyfluorfen		42874-03-3	1.80E+02	nc	1.10E+02	nc
Paclobutrazol		76738-62-0	7.90E+02	nc	4.70E+02	nc
Paraquat		4685-14-7	2.70E+02	nc	1.60E+02	nc
Paraquat dichloride		1910-42-5	2.70E+02	nc	1.60E+02	nc
Parathion		56-38-2	3.70E+02	nc	2.20E+02	nc
Pebulate		1114-71-2	3.10E+03	nc	1.80E+03	nc
Pendimethalin		40487-42-1	2.40E+03	nc	1.50E+03	nc
Pentabromo-6-chloro cyclohexane		87-84-3	2.10E+03	ca	2.90E+02	ca
Pentabromodiphenyl ether		32534-81-9	1.20E+02	nc	7.30E+01	nc
Pentachlorobenzene		608-93-5	4.90E+01	nc	2.90E+01	nc
Pentachloronitrobenzene		82-68-8	1.80E+02	nc*	2.60E+01	ca
Pentachlorophenol		87-86-5	3.00E+02	ca	5.60E+01	ca
Perchlorate	e	7601-90-3	5.50E+01	nc	2.50E+01	nc
Permethrin		52645-53-1	3.10E+03	nc	1.80E+03	nc
Phenmedipham		13684-63-4	1.50E+04	nc	9.10E+03	nc
Phenol		108-95-2	1.80E+04	nc	1.10E+04	nc
Phenothiazine		92-84-2	1.20E+02	nc	7.30E+01	nc
m-Phenylenediamine		108-45-2	3.70E+02	nc	2.20E+02	nc
o-Phenylenediamine		95-54-5	1.00E+03	ca	1.40E+02	ca
p-Phenylenediamine		106-50-3	1.20E+04	nc	6.90E+03	nc
Phenylmercuric acetate		62-38-4	4.90E+00	nc	2.90E+00	nc
2-Phenylphenol		90-43-7	2.50E+04	ca	3.50E+03	ca
Phorate		298-02-2	1.20E+01	nc	7.30E+00	nc
Phosmet		732-11-6	1.20E+03	nc	7.30E+02	nc
Phosphine		7803-51-2	1.80E+01	nc	1.10E+01	nc
Phosphorus (white)		7723-14-0	1.60E+00	nc	7.30E-01	nc
p-Phthalic acid		100-21-0	6.10E+04	nc	3.60E+04	nc
Phthalic anhydride		85-44-9	1.00E+05	max	7.30E+04	nc
Picloram		1918-02-1	4.30E+03	nc	2.60E+03	nc
Pirimiphos-methyl		29232-93-7	6.10E+02	nc	3.60E+02	nc
Polybrominated biphenyls		59536-65-1	4.30E-01	nc**	2.60E-01	nc*
Polychlorinated biphenyls (PCBs)		1336-36-3	2.20E+01	ca	3.30E+00	ca
Polychlorinated terphenyls		61788-33-8	1.10E+01	ca	1.50E+00	ca
Potassium perchlorate	e	7778-74-7	5.50E+01	nc	2.50E+01	nc
Potassium Silver Cyanide		506-61-6	1.60E+04	nc	7.30E+03	nc
Prochloraz		67747-09-5	3.20E+02	ca	4.50E+01	ca
Profluralin		26399-36-0	3.70E+02	nc	2.20E+02	nc
Prometon		1610-18-0	9.20E+02	nc	5.50E+02	nc
Prometryn		7287-19-6	2.40E+02	nc	1.50E+02	nc
Pronamide		23950-58-5	4.60E+03	nc	2.70E+03	nc
Propachlor		1918-16-7	7.90E+02	nc	4.70E+02	nc
Propanil		709-98-8	3.10E+02	nc	1.80E+02	nc
Propargite		2312-35-8	1.20E+03	nc	7.30E+02	nc
Propargyl alcohol		107-19-7	1.20E+02	nc	7.30E+01	nc
Propazine		139-40-2	1.20E+03	nc	7.30E+02	nc
Propham		122-42-9	1.20E+03	nc	7.30E+02	nc
Propiconazole		60207-90-1	7.90E+02	nc	4.70E+02	nc
n-Propylbenzene		103-65-1	1.40E+02	nc	6.10E+01	nc
Propylene glycol		57-55-6	3.00E+04	nc	1.80E+04	nc

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Propylene glycol, monoethyl ether		52125-53-8	4.30E+04	nc	2.60E+04	nc
Propylene glycol, monomethyl ether		107-98-2	4.30E+04	nc	2.60E+04	nc
Propylene oxide		75-56-9	1.40E+02	nc*	2.20E+01	ca
Pursuit		81335-77-5	1.50E+04	nc	9.10E+03	nc
Pydrin		51630-58-1	1.50E+03	nc	9.10E+02	nc
Pyrene		129-00-0	2.30E+03	nc	1.80E+02	nc
Indeno[1,2,3-cd]pyrene		193-39-5	6.20E+01	ca	9.20E+00	ca
Pyridine		110-86-1	6.10E+01	nc	3.60E+01	nc
Quinalphos		13593-03-8	3.10E+01	nc	1.80E+01	nc
Quinoline		91-22-5	1.60E+01	ca	2.20E+00	ca
RDX (Cyclonite)	f	121-82-4	1.80E+02	nc*	6.10E+01	ca
Resmethrin		10453-86-8	1.80E+03	nc	1.10E+03	nc
Ronnel		299-84-3	3.10E+03	nc	1.80E+03	nc
Rotenone		83-79-4	2.40E+02	nc	1.50E+02	nc
Sarin (GB)	b, g	107-44-8	1.20E+00	nc	7.30E-01	nc
Savey		78587-05-0	1.50E+03	nc	9.10E+02	nc
Selenious Acid		7783-00-8	3.10E+02	nc	1.80E+02	nc
Selenium	h	7782-49-2	3.90E+02	nc	1.80E+02	nc
Selenourea		630-10-4	3.10E+02	nc	1.80E+02	nc
Sethoxydim		74051-80-2	5.50E+03	nc	3.30E+03	nc
Silver and compounds	h	7440-22-4	3.90E+02	nc	1.80E+02	nc
Silver Cyanide		506-64-9	7.80E+03	nc	3.70E+03	nc
Simazine		122-34-9	3.10E+02	nc*	5.60E+01	ca
Sodium azide		26628-22-8	2.40E+02	nc	1.50E+02	nc
Sodium diethyldithiocarbamate		148-18-5	1.80E+02	ca	2.50E+01	ca
Sodium fluoroacetate		62-74-8	1.20E+00	nc	7.30E-01	nc
Sodium metavanadate		13718-26-8	6.10E+01	nc	3.60E+01	nc
Soman (GD)	b	96-64-0	2.40E-01	nc	1.50E-01	nc
Strontium, stable	h	7440-24-6	4.70E+04	nc	2.20E+04	nc
Strychnine		57-24-9	1.80E+01	nc	1.10E+01	nc
Styrene		100-42-5	1.70E+03	sat	1.60E+03	nc
1,1'-Sulfonylbis (4-chlorobenzene)		80-07-9	3.90E+02	nc	1.80E+02	nc
Sulfur Mustard (H, HD)	b	505-60-2	4.30E-01	nc	2.60E-01	nc
Systhane		88671-89-0	1.50E+03	nc	9.10E+02	nc
Tabun (GA)	b	77-81-6	2.40E+00	nc	1.50E+00	nc
2,3,7,8-TCDD (dioxin)		1746-01-6	3.90E-04	ca	4.50E-05	ca
Tebuthiuron		34014-18-1	4.30E+03	nc	2.60E+03	nc
Temephos		3383-96-8	1.20E+03	nc	7.30E+02	nc
Terbacil		5902-51-2	7.90E+02	nc	4.70E+02	nc
Terbufos		13071-79-9	1.50E+00	nc	9.10E-01	nc
Terbutryn		886-50-0	6.10E+01	nc	3.60E+01	nc
1,2,4,5-Tetrachlorobenzene		95-94-3	1.80E+01	nc	1.10E+01	nc
1,1,1,2-Tetrachloroethane		630-20-6	3.20E+02	ca	4.30E+01	ca
1,1,2,2-Tetrachloroethane		79-34-5	3.80E+01	ca	5.50E+00	ca
Tetrachloroethylene (PCE)		127-18-4	5.50E+01	ca	1.00E+01	ca
2,3,4,6-Tetrachlorophenol		58-90-2	1.80E+03	nc	1.10E+03	nc
p,a,a,a-Tetrachlorotoluene		5216-25-1	2.40E+00	ca	3.40E-01	ca
Tetrachlorovinphos		961-11-5	1.80E+03	nc*	2.80E+02	ca
Tetraethyldithiopyrophosphate		3689-24-5	3.10E+01	nc	1.80E+01	nc
1,1,1,2-Tetrafluoroethane		811-97-2	NA	NA	1.70E+05	nc
Tetrahydrofuran		109-99-9	9.40E+02	ca	1.60E+02	ca
Tetryl		479-45-8	2.40E+02	nc	1.50E+02	nc
Thallic oxide		1314-32-5	6.30E+00	nc	2.90E+00	nc
Thallium and compounds	h, l	7440-28-0	NA	NA	NA	NA
Thallium acetate		563-68-8	7.00E+00	nc	3.30E+00	nc
Thallium carbonate		6533-73-9	6.30E+00	nc	2.90E+00	nc
Thallium chloride		7791-12-0	6.30E+00	nc	2.90E+00	nc
Thallium nitrate		10102-45-1	7.00E+00	nc	3.30E+00	nc
Thallium selenite		12039-52-0	7.00E+00	nc	3.30E+00	nc
Thallium Sulfate		7446-18-6	6.30E+00	nc	2.90E+00	nc
Thiobencarb		28249-77-6	6.10E+02	nc	3.60E+02	nc
Thiocyanate		463-56-9	1.20E+01	nc	7.30E+00	nc
Thiodiglycol	b	111-48-8	2.40E+04	nc	1.50E+04	nc
Thiofanox		39196-18-4	1.80E+01	nc	1.10E+01	nc
Thiophanate-methyl		23564-05-8	4.90E+03	nc	2.90E+03	nc
1,4-Thioxane	a	15980-15-1	1.00E+05	sat	2.60E+07	nc
Thiram		137-26-8	3.10E+02	nc	1.80E+02	nc
Tin (inorganic, also see tributyltin oxide)		7440-31-5	4.70E+04	nc	2.20E+04	nc

Munitions Response Site Prioritization Protocol
Human Health Comparison Values
Figure B.1.1

Analyte	Note	CAS Number	Soil (mg/kg)	Qualifier	Water (ug/L)	Qualifier
Titanium	h	7440-32-6	1.00E+05	max	1.50E+05	nc
Toluene		108-88-3	5.20E+02	sat	2.30E+03	nc
Toluene-2,4-diamine		95-80-7	1.50E+01	ca	2.10E+00	ca
Toluene-2,5-diamine		95-70-5	3.70E+04	nc	2.20E+04	nc
Toluene-2,6-diamine		823-40-5	1.80E+03	nc	1.10E+03	nc
p-Toluidine		106-49-0	2.60E+02	ca	3.50E+01	ca
Toxaphene		8001-35-2	4.40E+01	ca	6.10E+00	ca
Tralothrin		66841-25-6	4.60E+02	nc	2.70E+02	nc
Triallate		2303-17-5	7.90E+02	nc	4.70E+02	nc
Triasulfuron		82097-50-5	6.10E+02	nc	3.60E+02	nc
1,2,4-Tribromobenzene		615-54-3	3.10E+02	nc	1.80E+02	nc
Tributyl phosphate		126-73-8	5.30E+03	ca	7.30E+02	ca
Tributyltin oxide (TBTO)		56-35-9	1.80E+01	nc	1.10E+01	nc
1,1,2-Trichloro-1,2,2-Trifluoroethane		76-13-1	5.60E+03	sat	5.90E+04	nc
2,4,6-Trichloroaniline		634-93-5	1.40E+03	ca	2.00E+02	ca
2,4,6-Trichloroaniline hydrochloride		33663-50-2	1.70E+03	ca	2.30E+02	ca
1,2,4-Trichlorobenzene		120-82-1	6.60E+01	nc	7.90E+00	nc
1,1,1-Trichloroethane		71-55-6	1.20E+03	sat	3.20E+03	nc
1,1,2-Trichloroethane		79-00-5	3.60E+01	nc*	2.00E+01	ca
Trichloroethylene (TCE)	j	79-01-6	2.90E+02	ca	1.40E+02	ca
Trichlorofluoromethane		75-69-4	3.90E+02	nc	1.30E+03	nc
2,4,5-Trichlorophenol		95-95-4	6.10E+03	nc	3.60E+03	nc
2,4,6-Trichlorophenol		88-06-2	6.10E+00	nc	3.60E+00	nc
2,4,5-Trichlorophenoxyacetic Acid		93-76-5	6.10E+02	nc	3.60E+02	nc
2-(2,4,5-Trichlorophenoxy) propionic acid		93-72-1	4.90E+02	nc	2.90E+02	nc
1,1,2-Trichloropropane		598-77-6	7.10E+01	nc	3.00E+01	nc
1,2,3-Trichloropropane		96-18-4	3.40E+00	ca	5.60E-01	ca
1,2,3-Trichloropropene		96-19-5	5.20E+00	nc	2.20E+00	nc
Tridiphane		58138-08-2	1.80E+02	nc	1.10E+02	nc
Triethylamine		121-44-8	2.30E+01	nc	1.20E+01	nc
Trifluralin		1582-09-8	4.60E+02	nc**	2.70E+02	nc**
Trimellitic Anhydride (TMAN)		552-30-7	8.60E+00	nc	5.10E+00	NA
1,2,4-Trimethylbenzene		95-63-6	5.20E+01	nc	1.20E+01	nc
1,3,5-Trimethylbenzene		108-67-8	2.10E+01	nc	1.20E+01	nc
Trimethyl phosphate		512-56-1	1.30E+03	ca	1.80E+02	ca
1,3,5-Trinitrobenzene	f	99-35-4	1.80E+03	nc	1.10E+03	nc
2,4,6-Trinitrotoluene (TNT)		118-96-7	3.10E+01	nc**	1.80E+01	nc**
Triphenylphosphine oxide		791-28-6	1.20E+03	nc	7.30E+02	nc
Tris(2-chloroethyl) phosphate		115-96-8	3.50E+03	ca	4.80E+02	ca
Tris(2-ethylhexyl) phosphate		78-42-2	6.10E+03	nc*	2.10E+03	ca
Uranium (chemical toxicity only)		7440-61-1	1.60E+01	nc	7.30E+00	nc
Vanadium and compounds	h	7440-62-2	7.80E+01	nc	3.60E+01	nc
Vanadium Pentoxide		1314-62-1	7.00E+02	nc	3.30E+02	nc
Vanadium Sulfate		13701-70-7	1.60E+03	nc	7.30E+02	nc
Vanadyl Sulfate		27774-13-6	1.20E+03	nc	7.30E+02	nc
Vernam		1929-77-7	6.10E+01	nc	3.60E+01	nc
Vinclozolin		50471-44-8	1.50E+03	nc	9.10E+02	nc
Vinyl acetate		108-05-4	4.30E+02	nc	4.10E+02	nc
Vinyl bromide (bromoethene)		593-60-2	4.10E+00	nc*	1.00E+01	nc**
Vinyl chloride (child/adult)	i	75-01-4	4.30E+00	ca	1.50E+00	ca
Warfarin		81-81-2	1.80E+01	nc	1.10E+01	nc
m-Xylene		108-38-3	2.00E+02	nc	2.10E+02	nc
o-Xylene		95-47-6	2.80E+02	sat	1.40E+03	nc
p-Xylene		106-42-3	2.30E+00	nc	2.10E+00	nc
Xylenes		1330-20-7	2.70E+02	nc	2.10E+02	nc
Zinc	i	7440-66-6	2.30E+04	nc	1.10E+04	nc
Zinc cyanide		557-21-1	3.90E+03	nc	1.80E+03	nc
Zinc phosphide		1314-84-7	2.30E+01	nc	1.10E+01	nc
Zineb		12122-67-7	3.10E+03	nc	1.80E+03	nc

Munitions Response Site Prioritization Protocol
 Human Health Comparison Values for Radionuclides
 Figure B.1.2

Analyte	CAS Number	Soil (pCi/kg)	Water (pCi/L)
Plutonium 236	15411-92-4	3.30E+06	6.40E+01
Plutonium 238	13981-16-3	3.26E+05	3.60E+01
Plutonium 239	15117-48-3	2.85E+05	3.50E+01
Plutonium 240	14119-33-6	2.85E+05	3.50E+01
Plutonium 241	14119-32-5	4.50E+07	2.70E+03
Plutonium 242	13982-10-0	3.00E+05	3.70E+01
Plutonium 243	15706-37-3	7.42E+09	1.00E+04
Plutonium 244	14119-34-7	2.69E+05	3.50E+01
Radium 226	13982-63-3	1.07E+00	1.20E+01
Radon 222	14859-67-7	1.27E+10	5.00E+00*
Thorium 227	15623-47-9	1.14E+07	1.00E+02
Thorium 228	14274-82-9	2.59E+06	4.50E+01
Thorium 229	15594-54-4	3.78E+04	2.10E+01
Thorium 230	14269-63-7	3.80E+05	5.20E+01
Thorium 231	14932-40-2	3.14E+09	2.20E+03
Thorium 232	7440-29-1	3.38E+05	4.70E+01
Thorium 234	15065-10-8	1.37E+08	2.10E+02
Tritium	10028-17-8	7.44E+08	8.30E+04
Uranium 233	13968-55-3	4.74E+05	6.60E+01
Uranium 234	13966-29-5	4.95E+05	6.70E+01
Uranium 235	15117-96-1	2.07E+04	6.80E+01
Uranium 238	7440-61-1	5.52E+05	7.40E+01

* Value represents EPA's proposed Maximum Contaminant Level from the *Federal Register* (64 FR 59246, November 2, 1999).

Munitions Response Site Prioritization Protocol
 Ambient Water Quality Comparison Values
 Figure B.2.1

Analyte	CAS Number	Freshwater (ug/L)	Note	Marine (ug/L)	Note
Acenaphthene	83-32-9	5.80E+00	e, f, P	6.60E+00	i
Acrolein	107-02-8	1.90E-01	h	5.50E-01	i
Acrylonitrile	107-13-1	6.60E+01	h	5.81E+02	i
Aldrin	309-00-2	3.00E+00	a, k	1.30E-01	i
Aluminum	7429-90-5	8.70E+01	a, e, j	2.71E+00	O
4-Amino-2,6-dinitrotoluene	19406-51-0	NA		NA	
2-Amino-4,6-dinitrotoluene	35572-78-2	1.48E+03	f	NA	
Ammonium perchlorate	7790-98-9	NA		NA	
Ammonium picrate (AP)	131-74-8	NA		NA	
Anthracene	120-12-7	1.20E-02	e, f, P	1.80E-01	i
Antimony	7440-36-0	3.00E+01	f	5.00E+02	i
Aroclor 1248	12672-29-6	7.40E-05	f, m	3.00E-02	q
Aroclor 1254	11097-69-1	7.40E-05	f, m	3.00E-02	q
Aroclor 1260	11096-82-5	7.40E-05	f, m	3.00E-02	q
Aroclor 1016	12674-11-2	7.40E-05	f, m	3.00E-02	q
Arsenic	7440-38-2	1.50E+02	a, b, y	3.60E+01	a, b, y
Arsenic (III)	22569-72-8	1.50E+02	a, b, y	3.60E+01	a, b, y
Barium	7440-39-3	4.00E+00	f	5.00E+03	O
Benzene	71-43-2	3.70E+02	e, f, P	1.10E+02	e, i
Benzidine	92-87-5	3.90E+00	f	NA	
Benzo(a)anthracene	56-55-3	1.80E-02	e, f, P	5.00E-01	O
Benzo(a)pyrene	50-32-8	1.50E-02	e, f, P	5.00E-01	O
Benzo(g,h,i)perylene	198-55-0	7.64E+00	h, p	NA	
Benzo(k)fluoranthene	207-08-9	2.70E-02	O	5.00E-01	O
Beryllium	7440-41-7	6.60E-01	f	6.60E-01	O
alpha-BHC	319-84-6	2.20E+00	f, o	2.50E+01	i
beta-BHC	319-85-7	2.20E+00	f, o	NA	
Cadmium	7440-43-9	2.50E-01	a, b, c	8.80E+00	a, b
Calcium	7440-70-2	1.16E+05	f	NA	
Carbazole	86-74-8	NA		NA	
Carbon Tetrachloride	56-23-5	1.33E+01	e, f, P	1.50E+03	i
Chlordane	57-74-9	4.30E-03	a	4.00E-03	a
Chlorinated naphthalenes	MRSP-03	3.96E-01	h, p, s	NA	
Chlorinated benzenes	MRSP-04	7.00E-01	e, f, t, P	5.40E+00	i, e, u
Chlorine	7782-50-5	1.10E+01	a	7.50E+00	a
tris(2-Chloroethyl)amine	555-77-1	NA		NA	
bis(2-Chloroethyl)ethylamine	538-07-8	NA		NA	
2-Chlorovinyl arsenous acid	85090-33-2	NA		NA	
2-Chlorovinyl arsenous oxide	3088-37-8	NA		NA	
Chloroform	67-66-3	1.80E+00	e, f, P	8.15E+02	i
4-Chlorophenol	106-48-9	NA		NA	
Chlorpyrifos	2921-88-2	4.10E-02	a	5.60E-03	a
Chromium (III)	1308-14-1	7.40E+01	a, b, c	1.03E+02	q
Chromium (VI)	7440-47-3	1.10E+01	a, b	5.00E+01	a, b
Chrysene	218-01-9	7.00E+00	r	NA	
Cobalt	7440-48-4	2.30E+01	f	NA	
Copper	7440-50-8	9.00E+00	a, b, c	3.10E+00	a, b
Cyanide	57-12-5	5.20E+00	a	1.00E+00	a
Dibenz[a,h]anthracene	53-70-3	5.00E+00	r	5.00E-01	O
Dichlorodiphenyldichloroethane (DDD)	72-54-8	1.10E-02	f	2.50E-02	i
p,p'-DDE	72-55-9	4.51E-09	h, p	1.40E-01	i
DDT	50-29-3	1.00E-03	a	1.00E-03	a
Demeton	8065-48-3	1.00E-01	a	1.00E-01	a
Dichlorobenzenes (total)	25321-22-6	5.00E+00	f, g	1.99E+01	i, v
1,2-Dichloroethane (EDC)	107-06-2	1.00E+02	e, f, P	1.13E+03	i
Dichloroethylenes (total)	25323-30-3	2.50E+01	f, w	6.80E+02	i, x
2,4-Dichlorophenol	120-83-2	1.10E+01	f	NA	
Dichloropropane	26638-19-7	3.60E+02	h, z	2.40E+03	q, z
Dichloropropene	26952-23-8	5.50E-02	f, l	7.90E+00	i, l
Dieldrin	60-57-1	5.60E-02	a	1.90E-03	a
S-(2-diisopropylaminoethyl)-methylphosphonothioic acid	73207-98-4	NA		NA	
Dimethyl methylphosphonate	756-76-9	NA		NA	
2,4-Dimethylphenol	105-67-9	1.00E+02	h, p	NA	

Munitions Response Site Prioritization Protocol
 Ambient Water Quality Comparison Values
 Figure B.2.1

Analyte	CAS Number	Freshwater (ug/L)	Note	Marine (ug/L)	Note
1,3-Dinitrobenzene	99-65-0	2.20E+01	h	6.68E+01	O
Dinitrotoluene (total)	25321-14-6	4.40E+01	f, A	3.70E+02	A, O
2,4-Dinitrotoluene	121-14-2	4.40E+01	f	3.70E+02	O
2,6-Dinitrotoluene	606-20-2	8.10E+01	f	3.70E+02	O
1,2-Diphenylhydrazine	122-66-7	1.2+01	r	NA	
Di-sec-octyl phthalate ([bis (2-ethylhexyl) phthalate])	117-81-7	1.60E+01	e, f	1.70E+00	O
1,4-Dithiane	505-29-3	NA		NA	
alpha-Endosulfan	959-98-8	5.60E-02	a	8.70E-03	a
beta-Endosulfan	33213-65-9	5.60E-02	a	8.70E-03	a
Endrin	72-20-8	3.60E-02	a	2.30E-03	a
Ethyl benzene	100-41-4	9.00E+01	e, f	2.50E+01	e, i
Ethyl methylphosphonic acid	1832-53-7	NA		NA	
o-Ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate (VX)	50782-69-9	NA		NA	
Ethyldiethanolamine	139-87-7	NA		NA	
Fluoranthene	206-44-0	4.00E-02	e, f, P	1.60E+00	i
Fluorene	86-73-7	3.00E+00	e, f, P	2.50E+00	i
Guthion	86-50-0	1.00E-02	a	1.00E-02	a
Haloethers (total)	MRSPP-05	1.50E+00	f, B	NA	
Halomethanes (total)	MRSPP-06	1.80E+00	e, f, C	1.20E+02	i, D
Heptachlor	76-44-8	3.80E-03	a	3.60E-03	a
Heptachlor epoxide	1024-57-3	3.80E-03	a	3.60E-03	a
Hexachlorobenzene	118-74-1	3.00E-04	f	1.00E+01	O
Hexachlorobutadiene	87-68-3	1.30E+00	e, f, P	3.00E-01	i
Hexachlorocyclohexane (HCH)	608-73-1	1.00E-02	e, f, P	NA	
Hexachlorocyclopentadiene	77-47-4	7.70E+01	h	7.00E-02	q
Hexachloroethane	67-72-1	1.20E+01	f	9.40E+00	i
Hexahydro-1,3-dinitroso-5-nitro-1,3,5- triazine (DNX)	MRSPP-07	NA		NA	
Hexahydro-1-nitroso-3,5-dinitro-1,3,5- triazine (MNX)	MRSPP-08	NA		NA	
Hexahydro-1,3,5-trinitroso-1,3,5- triazine (TNX)	13980-04-6	NA		NA	
HMX (Octahydro-1,3,5,7-tetranitro- 1,3,5,7-tetrazocine)	2691-41-0	1.50E+02	f	NA	
Hydrogen sulfide	7783-06-4	2.00E+00	a	2.00E+00	a
Indeno(1,2,3-cd)pyrene	193-39-5	4.31E+00	h, p	5.00E-01	O
Iron	7439-89-6	1.00E+03	a	NA	
Isophorone	78-59-1	9.20E+02	h	1.29E+02	i
Isopropyl methyl phosphonic acid	1832-54-8	NA		NA	
Lead	7439-92-1	2.50E+00	a, b, c	8.10E+00	a, b
Lewisite (Dichoro(2- chlorovinyl)arsine)	541-25-3	NA		NA	
Lindane	58-89-9	1.00E-02	e, f, P	1.60E-02	i
Malathion	121-75-5	1.00E-01	a	1.00E-01	a
Magnesium	7439-95-4	8.20E+04	f	NA	
Manganese	7439-96-5	1.20E+02	f	NA	
Mercury	7439-97-6	7.70E-01	a, b	9.40E-01	a, b
Methoxychlor	72-43-5	3.00E-02	a	3.00E-02	a
2-Methylnaphthalene	91-57-6	4.70E+00	f	4.20E+00	i
4-Chloro-3-methylphenol	59-50-7	3.48E+01	h	NA	
Methylphosphonic acid	993-13-5	NA		NA	
Mirex	2385-85-5	1.00E-03	a	1.00E-03	a
Naphthalene	91-20-3	1.10E+00	e, f, P	1.40E+00	e, i
Nickel	7440-02-0	5.20E+01	a, b, c	8.20E+00	a, b
Nitrobenzene	98-95-3	2.20E+02	h	6.68E+01	i
Nitrocellulose (NC)	9004-70-0	NA		NA	
Nitroglycerine	55-63-0	1.38E+02	f	NA	
Nitroguanidine	556-88-7	NA		NA	
Nitrophenols (total)	MRSPP-09	6.00E+01	f, E	7.17E+01	i, E
Nitrosamines	35576-91-1	1.17E+02	f, F	1.20E+02	i, G
2-Nitrotoluene (o-Nitrotoluene)	88-72-2	4.40E+02	r	NA	
3-Nitrotoluene (m-Nitrotoluene)	99-08-1	7.50E+02	f	NA	
4-Nitrotoluene (p-Nitrotoluene)	99-99-0	1.90E+03	f	NA	

Munitions Response Site Prioritization Protocol
 Ambient Water Quality Comparison Values
 Figure B.2.1

Analyte	CAS Number	Freshwater (ug/L)	Note	Marine (ug/L)	Note
Parathion	56-38-2	1.30E-02	a	1.78E-01	i
Pentachloroethane	76-01-7	5.64E+01	f	NA	
Pentachlorophenol	87-86-5	1.50E+01	a, d	7.90E+00	a
Pentaerythritol tetranitrate (PETN)	78-11-5	8.50E+04	f	8.50E+04	i
Perchlorate	7601-90-3	NA		NA	
Phenanthrene	85-01-8	4.00E-01	e, f, P	1.50E+00	i
Phenol	108-95-2	4.00E+00	e, f, P	5.80E+01	i
Phosphorus	7723-14-0	NA		1.00E-01	i
Phthalate esters	MRSP-10	1.60E+01	e, f, H, P	3.40E+00	i, J
Picric acid	88-89-1	NA		NA	
Pinacolyl methylphosphonic acid	616-52-48	NA		NA	
Polychlorinated biphenyls (PCBs)	1336-36-3	1.40E-02	a	3.00E-02	a
Polynuclear aromatic hydrocarbons (PAHs)	MRSP-11	1.20E-02	e, f, K, P	1.80E-01	i, K
Potassium	7440-09-7	5.30E+04	f	NA	
Potassium perchlorate	7778-74-7	NA		NA	
Pyrene	129-00-0	2.50E-02	e, f, P	2.40E-01	i
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	121-82-4	3.60E+02	f	NA	
Sarin (Isopropyl methylphosphonofluoridate)	107-44-8	NA		NA	
Selenium	7782-49-2	5.00E+00	a, e	7.10E+01	a, b
Silver	7440-22-4	3.20E+00	a, c, k	2.30E-01	i
Sodium	7440-23-5	6.80E+05	f		
Soman (Pinacolyl methylphosphonofluoridate)	96-64-0	NA		NA	
Strontium	7440-24-6	1.50E+03	f		
Sulfur Mustard (bis(2-chloroethyl)sulfide)	505-60-2	NA		NA	
Tabun (Ethyl n, n-dimethylphosphoramido-cyanidate)	77-81-6	NA		NA	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	3.10E-09	f, m	NA	
1,1,2,2-Tetrachloroethane	79-34-5	6.10E+02	f	9.02E+01	i
Tetrachloroethanes	25322-20-7	6.10E+02	f, L	9.02E+01	i, L
Tetrachloroethylene (PCE)	127-18-4	1.11E+02	e, f, P	4.50E+01	i
2,3,5,6-Tetrachlorophenol	935-95-5	1.00E+00	e, f, n, P	NA	
Tetryl (Methyl-2,4,6-trinitrophenylnitramine)	479-45-8	NA		NA	
Thallium	7440-28-0	8.00E-01	e, f, P	2.13E+01	i
Thiosulfan [Endosulfan, mixed isomers]	115-29-7	2.00E-02	e, f, P	1.00E-03	i
1,4-Thioxane	15980-15-1	NA		NA	
Titanium	7440-32-6	NA		NA	
TNT (2,4,6-Trinitrotoluene)	118-96-7	1.00E+02	f	1.00E+02	i
Toluene	108-88-3	2.00E+00	e, f, P	2.15E+02	e, i
Toxaphene	8001-35-2	2.00E-04	a	2.00E-04	a
Trichlorinated ethanes	25323-89-1	1.10E+01	f, M	3.12E+02	i, M
1,1,1-Trichloroethane	71-55-6	1.10E+01	f	3.12E+02	i
1,1,2-Trichloroethane	79-00-5	1.20E+03	f	5.50E+02	i
Trichloroethylene (TCE)	79-01-6	2.10E+01	e, f, P	1.94E+03	i
2,4,5-Trichlorophenol	95-95-4	6.40E+01	r	1.20E+01	i
2,4,6-Trichlorophenol	88-06-2	4.90E+00	f	6.10E+01	i
Triethanolamine	102-71-6	NA		NA	
1,3,5-Trinitrobenzene	99-35-4	1.00E+01	N	NA	
Vanadium	7440-62-2	2.00E+01	f	NA	
Zinc	7440-66-6	1.20E+02	a, b, c	8.10E+01	a, b
Zirconium	7440-67-7	1.70E+01	f	NA	

Munitions Response Site Prioritization Protocol
 Freshwater and Marine Sediment Comparison Values
 Figure B.3.1

Analyte	CAS Number	Freshwater (mg/kg)	Note	Marine (mg/kg)	Note
Acenaphthene	83-32-9	6.70E-03	b	6.71E-03	m
Acrolein	107-02-8	1.52E-06	c	NA	
Acrylonitrile	107-13-1	1.20E-03	c	2.22E-03	h, C
Aldrin	309-00-2	2.00E-03	b	9.50E-03	f
Aluminum	7429-90-5	1.40E+04	h	1.80E+04	f
4-Amino-2,6-dinitrotoluene	19406-51-0	NA		NA	
2-Amino-4,6-dinitrotoluene	35572-78-2	NA		NA	
Ammonium perchlorate	7790-98-9	NA		NA	
Ammonium picrate (AP)	131-74-8	NA		NA	
Anthracene	120-12-7	5.72E-02	b	4.69E-02	m
Antimony	7440-36-0	2.00E+00	b	9.30E+00	f
Aroclor 1248	12672-29-6	3.00E-02	k	2.27E-02	d, g
Aroclor 1254	11097-69-1	6.00E-02	k	6.33E-02	m
Aroclor 1260	11096-82-5	5.00E-03	k	2.27E-02	d, g
Aroclor 1016	12674-11-2	7.00E-03	k	2.27E-02	d, g
Arsenic	7440-38-2	9.80E+00	b	7.24E+00	m
Arsenic (III)	22569-72-8	NA		NA	
Barium	7440-39-3	2.00E+01	h	4.80E+01	f
Benzene	71-43-2	1.42E-01	c	1.37E-01	m
Benzidine	92-87-5	NA		NA	
Benzo(a)anthracene	56-55-3	1.08E-01	b	7.48E-02	m
Benzo(a)pyrene	50-32-8	1.50E-01	b	8.88E-02	m
Benzo(g,h,i)perylene	198-55-0	1.70E-01	b	6.70E-01	f
Benzo(k)fluoranthene	207-08-9	2.40E-01	b	1.80E+00	f
Beryllium	7440-41-7	NA		NA	
alpha-BHC	319-84-6	6.00E-03	b	1.36E+00	m
beta-BHC	319-85-7	5.00E-03	b	NA	
Cadmium	7440-43-9	9.90E-01	b	6.80E-01	m
Calcium	7440-70-2	NA		NA	
Carbazole	86-74-8	NA		NA	
Carbon tetrachloride	56-23-5	6.42E-02	b	7.24E+00	m
Chlordane	57-74-9	3.24E-03	b	2.26E-03	m
Chlorinated benzenes	MRSP-12	8.42E-03	b, e	1.62E-01	e, m
Chlorinated naphthalenes	MRSP-13	4.17E-01	c, z	NA	
Chlorine	7782-50-5	NA		NA	
tris(2-Chloroethyl)amine	555-77-1	NA		NA	
bis(2-Chloroethyl)ethylamine	538-07-8	NA		NA	
Chloroform	67-66-3	1.21E-01	c	9.54E-02	h, C
4-Chlorophenol	106-48-9	NA		NA	
2-Chlorovinyl arsenous acid	85090-33-2	NA		NA	
2-Chlorovinyl arsenous oxide	3088-37-8	NA		NA	
Chlorpyrifos	2921-88-2	5.19E-03	b	8.30E-03	m
Chromium	7440-47-3	4.34E+01	b	5.23E+01	m
Chromium (III)	1308-14-1	NA		NA	
Chrysene	218-01-9	1.66E-01	b	1.08E-01	m
Cobalt	7440-48-4	5.00E+01	b	1.00E+01	f
Copper	7440-50-8	3.16E+01	b	1.87E+01	m
Cyanide (free)	57-12-5	1.00E-01	b	NA	
DDD	72-54-8	4.88E-03	b	1.22E-03	m
DDE	72-55-9	3.16E-03	b	2.07E-03	m
DDT	50-29-3	4.16E-03	b	1.19E-03	m
Demeton	8065-48-3	NA		NA	
Dibenz[a,h]anthracene	53-70-3	3.30E-02	b	6.22E-03	m
Dichlorobenzenes (total)	25321-22-6	1.65E-02	b, j	4.60E-01	m, w
1,2-Dichloroethane (EDC)	107-06-2	2.60E-01	c	4.30E+00	B
Dichloroethylenes (total)	25323-30-3	3.10E-02	b, n	2.78E+00	m, n
2,4-Dichlorophenol	120-83-2	1.17E-01	b	5.00E-03	f
Dichloropropane	26638-19-7	3.33E-01	c, A	2.82E+00	A, B
Dichloropropene	26952-23-8	5.09E-05	b	7.31E-03	m
Dieldrin	60-57-1	1.20E-01	a, i	2.80E-01	a, i
S-(2-diisopropylaminoethyl)-methylphosphonothioic acid	73207-98-4	NA		NA	
Dimethyl methylphosphonate	756-76-9	NA		NA	
2,4-Dimethylphenol	105-67-9	2.90E-02	b	1.80E-02	f
1,3-Dinitrobenzene	99-65-0	8.61E-03	c	1.38E-02	h, C

Munitions Response Site Prioritization Protocol
 Freshwater and Marine Sediment Comparison Values
 Figure B.3.1

Analyte	CAS Number	Freshwater (mg/kg)	Note	Marine (mg/kg)	Note
Dinitrotoluene (total)	25321-14-6	4.16E-02	b, o	NA	
2,4-Dinitrotoluene	121-14-2	4.16E-02	b	1.89E-01	h, C
2,6-Dinitrotoluene	606-20-2	3.98E-02	c	1.55E-01	h, C
1,2-Diphenylhydrazine	122-66-7	NA		NA	
Di-sec-octylphthalate [bis(2-ethylhexyl)phthalate]	117-81-7	1.80E-01	b	1.82E-01	m
1,4-Dithiane	505-29-3	NA		NA	
alpha-Endosulfan	959-98-8	2.90E-03	b	NA	
beta-Endosulfan	33213-65-9	1.40E-02	b	NA	
Endrin	72-20-8	5.40E-02	a, i	9.90E-03	a, i
Ethylbenzene	100-41-4	1.10E+00	b	3.05E-01	m
Ethyl methylphosphonic acid	1832-53-7	NA		NA	
o-Ethyl S-(2-diisopropylaminoethyl) Methylphosphonothiolate (VX)	50782-69-9	NA		NA	
Ethyldiethanolamine	139-87-7	NA		NA	
Fluoranthene	206-44-0	4.23E-01	b	1.13E-01	m
Fluorene	86-73-7	7.74E-02	b	2.12E-02	m
Guthion	86-50-0	5.05E-05	b	5.05E-05	m
Haloethers (total)	MRSPP-14	1.23E+00	b, p	NA	
Halomethanes (total)	MRSPP-15	6.42E-02	b, q	1.31E+00	m, x
Heptachlor	76-44-8	6.80E-02	b	3.00E-04	f
Heptachlor epoxide	1024-57-3	2.47E-03	b	6.00E-04	m
Hexachlorobenzene	118-74-1	2.00E-02	b	6.00E-03	f
Hexachlorobutadiene	87-68-3	2.65E-02	c	1.30E-03	f
Hexachlorocyclopentadiene	77-47-4	9.01E-01	c	1.39E-01	m
Hexachlorocyclohexane (HCH)	608-73-1	3.00E-03	b	NA	
Hexachloroethane	67-72-1	1.03E+00	b	8.04E-01	m
Hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine (DNX)	MRSP-16	NA		NA	
Hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine (MNX)	MRSP-17	NA		NA	
Hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX)	13980-04-6	NA		NA	
HMX (Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine)	2691-41-0	4.70E-03	l, i	NA	
Hydrogen sulfide	7783-06-4	NA		NA	
Indeno(1,2,3-cd)pyrene	193-39-5	1.70E-02	b	6.00E-01	f
Iron	7439-89-6	2.00E+04	b	2.20E+05	f
Isophorone	78-59-1	4.32E-01	c	NA	
Isopropyl methyl phosphonic acid	1832-54-8	NA		NA	
Lead	7439-92-1	3.58E+01	b	3.02E+01	m
Lewisite (Dichoro(2-chlorovinyl)arsine)	541-25-3	NA		NA	
Lindane	58-89-9	2.37E-03	b	3.20E-04	m
Malathion	121-75-5	2.03E-04	b	2.10E-04	m
Magnesium	7439-95-4	NA		NA	
Manganese	7439-96-5	4.60E+02	b	2.60E+02	f
Mercury	7439-97-6	1.80E-01	b	1.30E-01	m
Methoxychlor	72-43-5	1.87E-02	b	2.96E-02	m
2-Methylnaphthalene	91-57-6	2.02E-02	b	2.02E-02	m
4-Chloro-3-methylphenol	59-50-7	3.88E-01	c	NA	
Methylphosphonic acid	993-13-5	NA		NA	
Mirex	2385-85-5	7.00E-03	b	NA	
Naphthalene	91-20-3	1.76E-01	b	3.46E-02	m
Nickel	7440-02-0	2.27E+01	b	1.59E+01	m
Nitrobenzene	98-95-3	1.45E-01	c	2.10E-02	f
Nitrocellulose (NC)	9004-70-0	NA		NA	
Nitroglycerine	55-63-0	NA		NA	
Nitroguanidine	556-88-7	NA		NA	
Nitrophenols (total)	MRSP-18	1.33E-02	c, u	NA	
Nitrosamines	35576-91-1	2.68E+00	b, r	4.22E+02	m, r
2-Nitrotoluene (o-Nitrotoluene)	88-72-2	NA		NA	
3-Nitrotoluene (m-Nitrotoluene)	99-08-1	NA		NA	
4-Nitrotoluene (p-Nitrotoluene)	99-99-0	4.06E+00	b	NA	
PAHs (total)	MRSP-19	1.61E+00	b	2.90E+00	m

Munitions Response Site Prioritization Protocol
 Freshwater and Marine Sediment Comparison Values
 Figure B.3.1

Analyte	CAS Number	Freshwater (mg/kg)	Note	Marine (mg/kg)	Note
Parathion	56-38-2	7.57E-04	b	1.04E-02	m
Pentachloroethane	76-01-7	8.26E-01	b	NA	
Pentachlorophenol	87-86-5	5.04E-01	b	7.97E+00	m
Pentaerythritol tetranitrate (PETN)	78-11-5	NA		NA	
Perchlorate	7601-90-3	NA		NA	
Phenanthrene	85-01-8	2.04E-01	b	8.67E-02	m
Phenol	108-95-2	4.20E-01	b	1.30E-01	f
Phosphorus	7723-14-0	NA		NA	
Phthalate esters	MRSP-20	1.80E-01	b, s	1.82E-01	m, s
Picric acid	88-89-1	NA		NA	
Pinacolyl methylphosphonic acid	616-52-48	NA		NA	
Polychlorinated biphenyls (PCBs, total)	1336-36-3	5.98E-02	b	4.00E-02	m
Potassium	7440-09-7	NA		NA	
Potassium perchlorate	7778-74-7	NA		NA	
Pyrene	129-00-0	1.95E-01	b	1.53E-01	m
RDX (Hexahydro-1,3,5-trinitro-1,3,5-triazine)	121-82-4	1.30E-02	b	NA	
Sarin (Isopropyl methylphosphonofluoridate)	107-44-8	NA		NA	
Selenium	7782-49-2	2.00E+00	b	1.00E+00	f
Silver	7440-22-4	1.00E+00	b	7.30E-01	m
Sodium	7440-23-5	NA		NA	
Soman (Pinacolyl methylphosphonofluoridate)	96-64-0	NA		NA	
Strontium	7440-24-6	NA		NA	
Sulfur Mustard (bis(2-chloroethyl)sulfide)	505-60-2	NA		NA	
Tabun (Ethyl n, n-dimethylphosphoramido-cyanidate)	77-81-6	NA		NA	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	8.50E-07	b	3.60E-06	f
1,1,2,2-Tetrachloroethane	79-34-5	1.36E+00	b	2.02E-01	m
Tetrachloroethanes	25322-20-7	1.36E+00	b, t	2.02E-01	m, t
Tetrachloroethylene (PCE)	127-18-4	4.68E-01	b	1.90E-01	m
2,3,5,6-Tetrachlorophenol	935-95-5	NA		NA	
Tetryl (Methyl-2,4,6-trinitrophenylnitramine)	479-45-8	NA		NA	
Thallium	7440-28-0	NA		NA	
Thiosulfan [Endosulfan, mixed isomers]	115-29-7	2.14E-03	b	1.07E-04	m
1,4-Thioxane	15980-15-1	NA		NA	
Titanium	7440-32-6	NA		NA	
TNT (2,4,6-Trinitrotoluene)	118-96-7	9.20E-02	b	NA	
Toluene	108-88-3	1.22E+00	c	1.09E+00	m
Total Kjeldahl Nitrogen	MRSP-21	5.50E+02	k	NA	
Total Organic Carbon (%)	MRSP-22	NA		NA	
Total Phosphorus	MRSP-23	6.00E+02	k	NA	
Toxaphene	8001-35-2	1.00E-04	b	5.36E-01	m
Trichlorinated ethanes	25323-89-1	3.02E-02	b, v	5.70E-01	m, y
1,1,1-Trichloroethane	71-55-6	3.02E-02	b	8.56E-01	m
1,1,2-Trichloroethane	79-00-5	1.24E+00	b	5.70E-01	m
Trichloroethylene (TCE)	79-01-6	9.69E-02	b	8.95E+00	m
2,4,5-Trichlorophenol	95-95-4	NA		8.19E-01	m
2,4,6-Trichlorophenol	88-06-2	2.13E-01	b	2.65E+00	m
Triethanolamine	102-71-6	NA		NA	
1,3,5-Trinitrobenzene	99-35-4	2.40E-03	l, i	NA	
Vanadium	7440-62-2	NA		5.70E+01	f
Zinc	7440-66-6	1.21E+02	b	1.24E+02	m
Zirconium	7440-67-7	NA		NA	

Munitions Response Site Prioritization Protocol
Comparison Values

All values presented in scientific notation (e.g., 2.5E+02 = 2.5 x 10² = 250).

mg/kg - milligrams per kilogram (equivalent to parts per million).

µg/L - micrograms per Liter (equivalent to parts per billion).

nc - value based on a noncancer exposure endpoint.

ca - value based on a carcinogenic exposure endpoint.

nc* - ca comparison value would be less than nc comparison value if a target cancer risk level of 1 x 10⁻⁶ is used.

nc** - ca comparison value would be less than nc comparison value if a target cancer risk level of 1 x 10⁻⁵ is used.

sat - substance achieves point of saturation at this value.

max - set at 100,000 mg/kg for soils (nonvolatiles).

NA - no screening value available.

Notes to Figure B.1.1:

^a CVs could not be calculated because toxicity values and/or chemical-physical parameters are no longer available for this chemical. Therefore, the original CV from the DoD Relative Risk Site Evaluation Primer, Summer 1997, is provided.

^b CVs were calculated using toxicity values from the CHPPM report Chronic Toxicity Criteria for Human Health Risk Assessment, Version 3, November 6, 2006.

^c CVs are based on California EPA toxicity values as per Department of the Air Force Memorandum "Toxicity Values for Use in Risk Assessment and Establishing Risk-Based Clean-up Levels", July 14, 2006.

^d Perchlorate is the anion of perchloric acid. Two salts of primary concern are the munitions constituents ammonium perchlorate and potassium perchlorate. As a result, the toxicity value for perchlorate was used as a surrogate for ammonium perchlorate and potassium perchlorate.

^e Water CVs for perchlorate, ammonium perchlorate, and potassium perchlorate were established following the DoD Memorandum "Policy on DoD Required Actions Related to Perchlorate", January 26, 2006.

^f Nitrogen-based explosive, co-contaminants, and/or breakdown product.

^g Chemical warfare agents and agent breakdown products.

^h Metals commonly found in military munitions.

ⁱ Essential nutrient.

^j Trichloroethylene CV was established based on the approach outlined in the Department of the Air Force Memorandum "Toxicity Values for Use in Risk Assessment and Establishing Risk-Based Clean-up Levels", July 14, 2006.

^k Mustard gas was used as a surrogate for toxicity values for this chemical.

^l The screening value was calculated following an alternative approach outlined in the U.S. Environmental Protection Agency, Region 9, Office of Environmental Health Assessment, "Guidance for the Assessment of Environmental Risks from Military Munitions", August 2006.

^m The screening value for nickel subsulfide is based on an industrial exposure scenario as outlined in the U.S. Environmental Protection Agency, Region 9, Office of Environmental Health Assessment, "Guidance for the Assessment of Environmental Risks from Military Munitions", August 2006.

Munitions Response Site Prioritization Protocol
Comparison Values

Notes to Figure B.2.1:

^a U.S. EPA National Recommended Water Quality Criteria, 2006 Update. Except where otherwise noted, freshwater Criterion Continuous Concentration (CCC) values were used for freshwater CVs, and saltwater CCC values were used for marine CVs.

^b Freshwater and saltwater criteria for metals are expressed in terms of the dissolved metal in the water column, unless otherwise noted.

^c Hardness dependent criteria; 100 mg/L CaCO₃ was used.

^d pH dependent criterion; pH = 7.8 was used.

^e Value is expressed as a total concentration.

^f U.S. EPA Region 3 BTAG Freshwater Screening Benchmarks, July 2006. Unless otherwise noted, values are expressed in terms of dissolved analyte in the water column.

^g Applies to the sum of 1,2-, 1,3- and 1,4-dichlorobenzene.

^h U.S. EPA Region 5 Ecological Screening Levels for Water, August 22, 2003.

ⁱ U.S. EPA Region 3 BTAG Marine Screening Benchmarks, July 2006. Unless otherwise noted, values are expressed in terms of dissolved analyte in the water column.

^j Value is applicable at pH 6.5 – 9.0.

^k Acute value (criterion maximum concentration or CMC) has been used because no chronic value is available.

^l Value for 1,3-dichloropropylene.

^m Value based on food chain effects to wildlife, not direct toxicity to aquatic life.

ⁿ Value for tetrachlorophenols, total.

^o Value for BHC (non Lindane).

^p Screening value is based on exposure to mink (*Mustela vison*) or belted kingfisher (*Ceryle alcyon*).

^q Chronic values from U.S. EPA (2001), EPA Region 4 Waste Management Division Saltwater Surface Screening Values

^r Ecological Benchmarks for Water from TCEQ (2006).

^s Value for 2-chloronaphthalene.

^t Value for 1,2-dichlorobenzene.

^u Value for 1,2,4-trichlorobenzene.

^v Value for 1,4-dichlorobenzene.

^w Value for 1,1-dichloroethylene.

^x Value for 1,2-dichloroethylene.

^y Water quality criteria for arsenic were derived from data for arsenic (III).

^z Value for 1,2-dichloropropane.

^A Value for 2,4-dinitrotoluene.

^B Value for 4-bromophenyl phenyl ether.

^C Value for chloroform.

^D Value for bromomethane.

^E Value for 4-nitrophenol.

^F Value for N-nitrosodimethylamine.

^G Value for N-nitrosodi-n-propylamine.

^H Value for bis(2-ethylhexyl)phthalate.

^J Value for di-n-butylphthalate.

^K Value for anthracene.

^L Value for 1,1,2,2-tetrachloroethane

^M Value for 1,1,1-trichloroethane.

^N Value from Talmage et al. (1999).

^O Value from U.S. EPA (1999).

^P The Canadian Water Quality Guidelines values refer to the total concentration in an unfiltered sample.

Munitions Response Site Prioritization Protocol
Comparison Values

Notes to Figure B.3.1:

- ^a U.S. EPA Equilibrium Partitioning Sediment Benchmarks. August 2003.
- ^b U.S. EPA Region 3 BTAG Freshwater Sediment Screening Benchmarks, August 2006.
- ^c U.S. EPA Region 5 Ecological Screening Levels for Sediment, August 22, 2003.
- ^d Effects Range – Low (ERL) values from NOAA's Sediment Quality Guidelines developed for the National Status and Trends Program, June 12, 1999. These values were originally reported in Long et al. (1995).
- ^e Value for chlorobenzene.
- ^f Apparent Effects Threshold (AET) value from Buchman, M.F. (1999).
- ^g Value for total PCBs.
- ^h Value from U.S. EPA (1999).
- ⁱ Value based on 1% organic carbon content in sediment.
- ^j Value for 1,2-dichlorobenzene.
- ^k Value is a Lowest Effect Level (LEL) from Persaud et al. (1993).
- ^l Value from Talmage et al. (1999).
- ^m U.S. EPA Region 3 BTAG Marine Sediment Screening Benchmarks, July 2006.
- ⁿ Value for 1,1-dichloroethylene.
- ^o Value for 2,4-dinitrotoluene.
- ^p Value for 4-bromophenyl phenyl ether.
- ^q Value for tetrachloromethane.
- ^r Value for N-nitrosodiphenylamine.
- ^s Value for bis(2-ethylhexyl)phthalate.
- ^t Value for 1,1,2,2-tetrachloroethane.
- ^u Value for p-nitrophenol.
- ^v Value for 1,1,1-trichloroethane.
- ^w Value for 1,4-dichlorobenzene.
- ^x Value for tribromomethane.
- ^y Value for 1,1,2-trichloroethane.
- ^z Value for 2-chloronaphthalene.
- ^A Value for 1,2-dichloropropane.
- ^B Value from TCEQ (2006).
- ^C Values for organic compounds presented in U.S. EPA (1999) are based on an assumed 4% organic carbon content. Values presented here have been adjusted to 1% organic carbon content for consistency with other sources of screening values.