

BIOLOGICAL AGENTS AND THEIR PROPERTIES

Agent	Incubation	Symptoms	Transmission	Treatment
Bacteria				
Anthrax (inhalational) (cutaneous)	1 – 6 d	Fever/chills, malaise, fatigue, cough Late: Severe resp. distress, shock Papule, fluid-filled vesicle, black eschar	Aerosol Direct	Cipro 400 mg IV BID; OR Doxycycline 200 mg IV, then 100 mg, IV BID; OR PCN 4 mill units IV q 4 h, Cutaneous same as Inhalational
Brucellosis	1 – 2 mo	Fever/chills, headache, malaise, anthralgia, myalgia	Aerosol	Doxycycline 200 mg/day PO, PLUS rifampin 600-900 mg/day, PO X 6 weeks
Plague (inhalational)	2 – 3 d	Fever/chills, headache, hemoptysis, toxemia.Late: Resp. failure, shock DIC	Aerosol*	Cipro 400 mg IV BID IV; OR Doxycycline 200 MG IV, then 100 mg IV BID; change to PO after improvement
Tularemia (inhalational)	3 – 5 d	Fever/chills, headache, malaise	Aerosol	Gentamycin 3-5 mg/kg/day IV X14; OR Cipro 400 mg IV BID until improved; then 750 mg PO BID X14
Q fever	2 – 40 d	Fever/chills, cough, pleuritic chest pain, GI symptoms	Aerosol	Tetracycline 500 mg PO TID X 7; OR Doxycycline 100 mg PO BID X 7
Viruses				
Smallpox	10 – 12 d	Fever/chills, headache, malaise, backache	Aerosol*	Supportive, Vaccination rec. w/in 5 days for those exposed
Viral Hemorrhagic Fevers	4 – 21 d	Fever/chills, headache, malaise, myalgia, Late: Bleeding, petechiae, hypotension, shock	Aerosol* Direct	Supportive
Toxins				
Botulinum	Sx begins 12 – 72 hrs	Ptosis, progressive descending bulbar, muscular and resp. weakness; Late: Resp. failure	Aerosol PO	Antitoxin, Supportive
Staphylococcal enterotoxin B (aerosol)	Sx begins 3 – 12 hrs	Fever/chills, headache, myalgia, cough	Aerosol PO	Supportive
Ricin (inhalational)	Sx begins 4 – 8 hrs	Fever/chills, cough, malaise, dyspnea Late: Pulm. Edema, resp. failure	Aerosol	Supportive
Tricothecene Mycotoxins (T2)	Sx begins 2-4 hrs	Necrosis and sloughing of affected tissues, Late: Prostration, collapse, choc	Aerosol, PO, Dermal, Eye,	Supportive

Standard personal protection for all biological WMD includes gloves, gowns, and mask. HEPA-mask is recommended for plague, smallpox, and other viral pathogens. 06/05 mg

* = **person-to-person transmission**

CHEMICAL AGENTS AND THEIR PROPERTIES

NAME	CODE	TYPE	PERSISTENCE AT 21-32°C (HOURS)	PERSISTENCE AT 4-16°C (HOURS)	ACTION	STATE AT 20°C	ODOR	SYMPTOMS	REMARKS
PHOSGENE	CG	CHOKING	0.5	1	RAPID	COLORLESS GAS	GREEN CORN OR NEW MOWN HAY	Burning eyes, sore throat, dry cough, and chest tightness	MAY BE KNOWN AS COLLONGITE
DIPHOSGENE	DP	CHOKING	.5-3	1-4	RAPID	COLORLESS LIQUID	GREEN CORN OR NEW MOWN HAY	Visual disturbance, eye pain, pinpointing of the pupils, runny nose, chest tightness, breathing difficulty, cough, severe nasal congestion, nausea, diarrhoea, vomiting, and twitching.	MAY BE KNOWN AS SUPERPALITE
TABUN	GA	NERVE	24-48	48-96	VERY RAPID	COLORLESS TO BROWN LIQUID	FRUITY TO NONE	Visual disturbance, runny nose, chest tightness, nausea, vomiting, and convulsions	--
SARIN	GB	NERVE	.5-24	24-36	VERY RAPID	COLORLESS LIQUID	NEAR ODORLESS	Blurred visual, eye pain, runny nose, chest tightness, breathing difficulty, drooling, sweatiness, headache, confusion, nausea, vomiting, diarrhoea, involuntary urination, and twitching	--
SOMAN	GD	NERVE	24-48	48-96	VERY RAPID	COLORLESS LIQUID	CAMPHOR TO FRUITY	Constricted pupils, visual disturbance, eye pain, runny nose, chest tightness, cough, breathing difficulty, nausea, vomiting, cramps, diarrhoea, weakness, and twitching.	--
VX	VX	NERVE	240-720	720-2160	RAPID	COLORLESS LIQUID	ODORLESS	Hyperventilation, loss of consciousness, and convulsions	DEGRADES FILTERS
HYDROGEN CYANIDE	AC	BLOOD	.25-.5	.5-1	VERY RAPID	COLORLESS GAS OR LIQUID	BITTER ALMONDS	Headache, weakness, eye, nose and throat irritation, nausea, vomiting, and gasping for air	DEGRADES FILTERS
CYANOGEN CHLORIDE	CK	BLOOD	.25-.5	.5-1	RAPID	COLORLESS GAS	WEAKLY LIKE BITTER ALMONDS	Headache, malaise, weakness, dizziness, breathing difficulty, abdominal pain, nausea, vomiting, jaundice, and bloody urine	--
ARSINE	SA	BLOOD	.08-.25	.25-.5	DELAYED	COLORLESS GAS	MILD GARLIC	Burning eyes, eyelid swelling, repeated blinking, sneezing, nasal secretion, sore throat, and coughing	LESS CONCENTRATED MIX MAY BE KNOWN AS "HS" OR YPERITE
DISTILLED MUSTARD	HD	BLISTER	24-48	48-96	DELAYED	COLORLESS TO PALE YELLOW LIQUID	Horseradish, onions, or garlic; or fishy, musty, soapy, or almonds		--
NITROGEN MUSTARD	HN-1	BLISTER	24-48	48-96	DELAYED	DARK LIQUID	FISHY OR		--

NITROGEN MUSTARD	HN-2	BLISTER	24-36	48-72	DELAYED	DARK LIQUID	MUSTY SOAPY TO FRUITY					
NITROGEN MUSTARD	HN-3	BLISTER	48-72	96-144	DELAYED	DARK LIQUID	NEAR ODORLESS					
PHOSGENE OXIME	CX	BLISTER	2-4	3-6	IMMEDIATE	COLORLESS SOLID OR LIQUID	SHARP AND PENETRATING					
LEWISITE	L	BLISTER	18-36	48-72	RAPID	DARK BROWN OR YELLOW OIL/LIQUID	MAY RESEMBLE GERANIUMS	Eye irritation, coughing, sneezing,				
MUSTARD LEWISITE	HL	BLISTER	24-36	48-72	DELAYED	DARK BROWN OR YELLOW OIL/LIQUID	GARLIC					
ETHYLDICHLOROARSINE	ED	BLISTER	1-2	2-3	IMMEDIATE	COLORLESS LIQUID	FRUITY AND BITING					VERY WATER SOLUBLE; BECOMES VERY NON-PERSISTENT IN RAIN, ETC.
METHYLDICHLOROARSINE	MD	BLISTER	2-4	4-8	RAPID	COLORLESS LIQUID	ODORLESS					
DIPHENYL-DICHLOROARSINE	DA	VOMITING	1-2	2-4	VERY RAPID	WHITE TO BROWN SOLID	ODORLESS					ALWAYS SPREAD AS AN AEROSOL
ADAMSITE	DM	VOMITING	1-2	2-4	VERY RAPID	YELLOW TO GREEN SOLID	ODORLESS					
DIPHENYLCYANOARSINE	DC	VOMITING	1-2	2-4	VERY RAPID	WHITE TO PALE SOLID	BITTER ALMOND-GARLIC MIX					OFTEN USED IN CONJUNCTION WITH GB; MAY BE KNOWN AS STERNITE
CHLOROACETOPHENOME	CN	RIOT	1-2	2-3	INSTANT	SOLID	APPLE BLOSSOMS					
CHLOROACETOPHENOME IN CHLOROFORM	CNC	RIOT	1-2	2-3	INSTANT	LIQUID	CHLOROFORM					ALWAYS SPREAD AS AN AEROSOL
CHLOROACETOPHENOME AND CHLOROPICRIN IN CHLOROFORM	CNS	RIOT	1-2	2-3	INSTANT	LIQUID	FLYPAPER					ALWAYS SPREAD AS AN AEROSOL
CHLOROACETOPHENOME IN BENZENE AND CARBON TETRACHLORIDE	CNB	RIOT	1-2	2-3	INSTANT	LIQUID	BENZENE					
BROMOBENZYL CYANIDE	CA	RIOT	24-48	48-96	INSTANT	LIQUID	SOURD FRUIT					MAY BE KNOWN AS CAMITE
O-CHLORO-BENZYL MALONITRILE	CS	RIOT	168-336	168-336	INSTANT	COLORLESS TO WHITE SOLID	PEPPER					
BZ	BZ	INCAPACITATING	240-480	720-1440	DELAYED	DUST						NO LONGER IN ACTIVE SERVICE; EFFECTS WILDLY UNPREDICTABLE

Appendix C

(Refers to Chapter 7, Page 115)

SUGGESTED CHANGES / ADDITIONS TO THE NATIONAL SECURITY COUNCIL

