Environmental Health & Safety Policy Manual		
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Chemical Procurement, Inventory and Security Policy		

1.0 PURPOSE

To implement accountability and security measures for "High Risk" chemicals, establish chemical inventory requirements, and ensure compliance with Federal reporting requirements.

A "High Risk" chemical, as defined in this policy, includes any chemical identified on the "Highly Toxic" (Appendix A) or Department of Homeland Security (DHS) Chemicals of Interest (COI) (Appendix B) lists, or that otherwise possesses at least one of the following characteristics:

- LD_{50} equal or less than 50 mg/kg (oral, albino rat)
- LD_{50} equal or less than 200 mg/kg (topical 24 hours, albino rabbit)
- LC_{50} equal or less than 200 ppm, or 2 mg/L (continuous inhalation for one hour, albino rat)

2.0 SCOPE

This policy applies to all LSUHSC personnel who are involved in the procurement and/or use of hazardous chemicals.

3.0 RESPONSIBILITIES

3.1 Environmental Health & Safety Department (EH&S) shall:

- As part of laboratory inspections, review the chemical inventory for safety issues (e.g., installation of proper containment, SOPs for high hazard chemicals).
- Use the chemical inventory to validate compliance with EPA Superfund Amendments and Reauthorization Act (SARA) Tier II and DHS Chemical Facility Anti-Terrorism Standards (CFATS) reporting requirements.

3.2 Principal Investigators (PI)/Supervisors shall:

- Issue prior approvals for purchases of "High Risk" chemicals through Medical Center Stores and review for legitimacy of chemical purchases made via Purchase Cards.
- Maintain their chemical inventory using EH&S Compliance Software, SafetyStratus. Update the chemical inventory when a new chemical is added to the inventory, a chemical is no longer maintained in the laboratory, and when there is more than a twofold increase in a chemical's quantity. Update the chemical inventory review statement on SafetyStratus at least every 12 months.
- Report loss or theft of a high-risk chemical in accordance with section 4.3.2.
- Implement procedures to ensure proper control of "High Risk" chemicals.
- Comply with Export Administration Regulations for overseas shipments.

3.3 Medical Center Stores (MCS) shall:

- Ensure prior approval form(s) are submitted for the purchase of "High Risk" chemicals.
- Provide EH&S with notice of purchase of all "High Risk" chemicals.

4.0 IMPLEMENTATION

4.1 Chemical Procurement

The purchase and use of "High Risk" chemicals can potentially create significant health and safety hazards, security concerns, and regulatory reporting requirements for the University. Before ordering a "High Risk" chemical:

- Verify a legitimate lab research need.
- Ensure that a minimum quantity is purchased consistent with the rate of use (EH&S recommends users order only what will be used within a six-month period). This can minimize chemical waste if processes or research changes and previously purchased chemicals are no longer needed.
- Ensure that other, less hazardous, chemicals are considered as alternatives. At minimum, review the product Safety Data Sheet (SDS) and perform a preliminary chemical hazard assessment to ensure that the laboratory facilities in which the substance will be handled are adequate and that those who will handle the substance have received the proper information and training.

4.1.1 "High Risk" Chemical Purchases through MCS

- The purchaser must be an LSUHSC employee (no students).
- Prior approval from the PI/Supervisor or designated proxy must be obtained

by completing the "Approval for Purchase of High-Risk Chemical" form (Appendix C). This form will accompany the standard MCS required Order Form.

- MCS shall review chemical purchase requests to ensure that all necessary prior approvals are submitted.
- MCS shall forward a copy of all completed "Approval for Purchase of High-Risk Chemical" forms to the Chemical Hygiene Officer via fax (568-5185), email (safety@lsuhsc.edu), or hard copy through LSUHSC Campus Correspondence.

4.1.2 "High Risk" Chemical Purchases via the Purchase Card

Procurement of "High Risk" chemicals made via laboratory Purchase Card (P-Card) do not require a prior approval. However, all chemical purchases made via laboratory P-Card should be reviewed for legitimacy in accordance with the LaCarte Program User Guide.

Laboratories shall provide notice to the EH&S Biological and Chemical Safety Officer of "High Risk" chemical purchases made via laboratory Purchase Card (P-Card). Although prior approval is not required, notification subsequent to purchase shall be through the submission of a completed "Approval for Purchase of High Risk Chemical" form to the EH&S department via fax (568-5185), email (safety@lsuhsc.edu),), or hard copy through LSUHSC Campus Correspondence.

4.2 Chemical Inventory

PIs/Supervisors are responsible for placing the inventory of all chemicals in their possession into the EH&S Compliance Software, SafetyStratus. Use of a complete and up-to-date inventory facilitates identifying and managing potential safety and health hazards, emergency planning activities, and EPA SARA Tier II and DHS CFATS reporting requirements.

The maintenance/updating of chemical inventories shall occur when:

- New chemicals are added to the inventory.
- A chemical is no longer maintained in the laboratory.
- When there is a twofold increase in a chemical's quantity.

4.3 Chemical Security

4.3.1 Laboratory Access and Chemical Storage Controls

To reduce the probability of theft and improper use high-risk chemicals, the following actions should be taken:

- Prevent all un-authorized access to laboratory/chemical storage area(s).
- Secure "High Risk" chemicals in locked freezers, refrigerators, storage cabinets, or other appropriate containers when they are not in use.
- Do not leave "High Risk" chemicals unattended or unsecured at any time.
- Use a log to sign "High Risk" chemicals in and out of secure storage and take their periodic inventory.
- Be aware of all materials that are being ordered (see section 4.1) and used in the laboratory. Know what materials are being removed from the laboratory area and consider tracking the use and disposal of hazardous materials. Although EH&S collects and manages the appropriate disposal of hazardous waste generated on Campus, these materials are not inventoried and tracked per lab.

4.3.2 Chemical Loss/Theft Reporting Requirements

Intentional or unintentional security breaches in the laboratory, either by personnel or by outside agents, pose significant risks. Possible breaches include theft or diversion of chemicals that may be used for illegal activities, accidental or intentional release of or exposure to hazardous materials, and unauthorized laboratory experimentation.

Periodic inventory audits of all "High Risk" chemicals should be performed. Immediately report any missing "High Risk" chemicals to the Department Head, University Police, and EH&S.

4.3.3 Commerce Control List (CCL)

Export control laws are federal regulations that control the conditions under which certain information, technologies, and commodities can be transmitted overseas to anyone. The laws are implemented by the Department of Commerce through its Export Administration Regulations (EAR). The laws prohibit the

unlicensed export of certain materials or information for reasons of national security or protection of trade. The CCL is a list of items which includes commodities, software, and technology that are found in the EAR subject to the jurisdiction of the Department of Commerce. In order to comply with EAR, any LSUHSC employee that plans to ship chemicals overseas must validate that the chemical is not on the CCL. If the chemical is on the CCL, then check for any special conditions or license requirements on the Export Administration Regulations Database before shipping the listed chemical overseas. Coordinate with EH&S before shipping any chemicals on the CCL.

4.3.4 Chemicals of Interest (COI)

The COI, which are listed in Appendix B, is a list of chemicals and threshold quantities that must be reported to DHS. The CFATS regulation requires all facilities that use, handle, or store any of these chemicals at or above the threshold quantities to file a "Top Screen Report". The Top Screen Report is used by DHS to determine the risk level of a facility and whether or not the facility is required to implement a security plan. EH&S will monitor the levels of the total quantity of any COI present on the SafetyStratus inventory. If a threshold quantity is reached, EH&S will notify the Associate Vice Chancellor, Property and Facilities, then submit a Top Screen Report to DHS.

5.0 TRAINING

Direction on the use of the SafetyStratus can be found on the system site. Further training assistance can be provided by EH&S on request.

6.0 RECORDKEEPING

EH&S shall maintain all "Approval for Purchase of High Risk Chemical" forms for a period of three years.

7.0 REFERENCES

National Research Council, *Prudent Practices in the Laboratory*

8.0 APPENDICES

- Appendix A, Highly Toxic Chemicals List
- Appendix B, DHS Chemicals of Interest List
- Appendix C, Approval for Purchase of High Risk Chemical Form

LSU Health NEW ORLEANS

"Highly Toxic" Chemical List

Chemical Name	Alternate Name(s)	CAS No.
Abrin	Toxalbumin; Rosary Pea	1393-62-0
Acrolein	2-Propen-1-one	107-02-8
Acrylonitrile	2-Propenenitrile; Cyanoethylene	107-13-1
Actinomycin	Actinomycin C; Oncostatin	1402-38-6
Actinomycin D	Oncostatin K	50-76-0
Activated Factor X	Factor X Activating Enzyme from Russell's Viper Venom	9002-05-5
Aflatoxin B1		1402-68-2
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-((methylamino)carbonyl)oxime	116-06-3
Aldrin		309-00-2
Allyl iodide	Iodopropene, 3-	556-56-9
Amanitine, alpha-	Amatoxin, alpha-	23109-05-9
Aminopterin	Aminofolic Acid, 4-	54-62-6
Aminopyridine, 3-	Aminopyridine, m-	462-08-8
Aminopyridine, 4-	Aminopyridine, p-	504-24-5
Amiton		78-53-5
Amiton Oxalate	Tetram Monooxalate	3734-97-2
Amphetamine Sulfate, d-	Benzedrine Sulfate, d-	51-63-8
Amphetamine, d-	Amphetamine, (+)-	51-64-9
Antimony Hydride	Stibine	7803-52-3
Antimycin A	Virosin	1397-94-0
Arsenic Acid	Orthoarsenic Acid	7778-39-4
Arsenic(III) Chloride	Arsenic Trichloride	7784-34-1
Arsenic(III) Fluoride	Arsenic Trifluoride	7784-35-2
Arsenic(III) Oxide	Arsenic Trioxide; Arsenious Oxide	1327-53-3
Arsenic(III) Sulfide	Arsenic Trisulfide	1303-33-9
Arsenic(V) Oxide	Arsenic Pentoxide	1303-28-2
Arsenic(V) Sulfide	Arsenic Pentasulfide	1303-34-0
Arsine	Hydrogen Arsenide	7784-42-1
Azinphos-Methyl	Guthion	86-50-0
Beryllium (powdered)		7440-41-7
Beryllium Sulfate Tetrahydrate	Sulfuric acid, beryllium salt (1:1), tetrahydrate	7787-56-6
Bidrin	Dipadrin; Dicrotphos	141-66-2
Bis(2-chloroethyl)-N-nitrosourea, N,N'-	BCNU; Carmustin	154-93-8
Bis(chloromethyl) Ether	BCME	542-88-1
Bis(dimethylamido)fluorophosphate	Dimefox	115-26-4
Boron Tribromide	Boron Bromide	10294-33-4

LSU Health NEW ORLEANS

Chemical Name	Alternate Name(s)	CAS No.
Boron Trichloride	Boron Chloride	10294-34-5
Boron Trifluoride	Boron Fluoride	7637-07-2
Botulinum Toxin B	Botulinum Toxin E	93384-44-2
Bromadiolone	Bromatrol	28772-56-7
Bungarotoxin, b-		
Butyronitrile	Cyanopropane, 1-	109-74-0
Calcium Arsenate	Arsenic Acid, Calcium Salt (2:3)	7778-44-1
Calcium Cyanide	Calcid; Cyanogas	592-01-8
Capsaicin	6-Nonenamide, 8-methyl-N-vanillyl-, (E)-	404-86-4
Carbachol Chloride	Doryl	51-83-2
Carbofuran	Yaltox	1563-66-2
Carbonyl Cyanide m-Chlorophenylhydrazone	Carbonyl Cyanide 3-Chlorophenyl Hydrazone	555-60-2
Carbophenothion	Acarithion	786-19-6
Chlorfenvinphos	Apachlor	470-90-6
Chlormephos	S-Chloromethyl-o,o-diethylphosphorodithioate	24934-91-6
Chlorophacinone		3691-35-8
Chlorthiophos		21923-23-9
Cholecalciferol	Quintox	67-97-0
Cholera Toxin		9012-63-9
Cisplatin		15663-27-1
Colchicine		64-86-8
Copper Acetoarsenite	C.I. Green 21	12002-03-8
Coumaphos		56-72-4
Crimidine	Crimitox	535-89-7
Cyanide		57-12-5
Cyanogen Chloride	Chlorine Cyanide	506-77-4
Cyanuric Fluoride	Trifluorotriazine	675-14-9
Cycloheximide	Actidione	66-81-9
Cytochalasin D	Zygosporin A	22144-77-0
Demecolcine	Colcemid	477-30-5
Dialifor		10311-84-9
Diborane	Boroethane	19287-45-7
Dibutyltin Diacetate		1067-33-0
Dichloroacetylene		7572-29-4
Dichloro-N-methyldiethylamine Hydrochloride, 2,2'-	Nitrogen Mustard Hydrochloride	55-86-7
Dichlorophenylarsine	Phenyl Dichloroarsine	696-28-6
Dichlorvos	DDVP	62-73-7
Dieldrin		60-57-1
Diethyl 4-Nitrophenol Phosphate	Ethyl Paraoxon	311-45-5
Diethyl Chlorophosphate		814-49-3
Digitoxin		71-63-6
Digoxigenin		1672-46-4
Digoxin		20830-75-5
Diisopropyl Fluorophosphate	Isopropyl Phosphorofluoridate	55-91-4
Dimethyl Sulfate	Methyl Sulfate	77-78-1
Dimethylmercury	Methyl Mercury	593-74-8
Dimetilan		644-64-4
Dinitrobutylphenol	DNBP; 2-sec-butyl-4,6-Dinitrophenol	88-85-7
Dinitro-o-Cresol, 4,6-		534-52-1
Dinitrophenol, 2,4-	Aldifen; DNP, 2,4-	51-28-5
Dioxathion		78-34-2
Diphtheria Toxin		
Disulfoton		298-04-4

LSU Health NEW ORLEANS

Chemical Name	Alternate Name(s)	CAS No.
Di-tert-butyl Dicarbonate	BOC-Anhydride	24424-99-5
Dithiobiuret, 2,4-	DTB	541-53-7
Doxorubicin (Free Base)	Adriamycin (Free Base)	23214-92-8
Emetine Dihydrochloride		316-42-7
Endosulfan Sulfate		1031-07-8
Endothion		2778-04-3
Endrin	Hexadrin	72-20-8
Ergocalciferol	Vitamin D2	50-14-6
Ergosterol	Provitamin D2	57-87-4
ERL 4221	Chissonox 221 monomer	2386-87-0
Ethion		563-12-2
Ethoprophos	Ethoprop	13194-48-4
Ethylene Fluorohydrin	Fluoroethanol, 2-	371-62-0
Ethyleneimine	Aziridine	151-56-4
Ethylmercuric Phosphate		2235-25-8
Ethyl-p-nitrophenylbenzenethiophosphate	EPN	2104-64-5
Etorphine	Immobilon	14521-96-1
Fenamiphos		22224-92-6
Fensulfothion	Dasanit	115-90-2
Fluenetil		4301-50-2
Fluoride ion		16984-48-8
Fluorine		7782-41-4
Fluoroacetamide		640-19-7
Fluoroacetic Acid		144-49-0
Fonofos		944-22-9
Formaldehyde (gas)	Methyl Aldehyde	50-00-0
Formaldehyde Cyanohydrin	Glycolonitrile	107-16-4
Formetanate Hydrochloride		23422-53-9
Formparanate		17702-57-7
Gitoxin		4562-36-1
Heptachlor		76-44-8
Heptachlor Epoxide		1024-57-3
Hexaethyl Tetraphosphate		757-58-4
Hydrazine		302-01-2
Hydrogen Cyanide	Hydrocyanic Acid	74-90-8
Hydrogen Selenide	Selenium Hydride	7783-07.5
Hygromycin B	Antihelmucin	31282-04-9
Iron Pentacarbonyl		13463-40-6
Isobenzan	Telodrin	297-78-9
Isobutyronitrile	Isopropyl Cyanide	78-82-0
Isocyanatoethyl Methacrylate, 2-		30674-80-7
Isodrin		465-73-6
Lactonitrile		78-97-7
Lannate	Methomyl	16752-77-5
Leptophos		21609-90-5
Lewisite		541-25-3
Malonitrile	Malononitrile	109-77-3
Mephosfolan		950-10-7
Mercaptofos	Demeton	8065-48-3
Mercury(II) Acetate	Mercuric Acetate	1600-27-7
Mercury(II) Bromide	Mercuric Bromide	7789-47-1
Mercury(II) Chloride	Mercuric Chloride	7487-94-7
Mercury(II) Cyanide	Mercuric Cyanide	592-04-1

LSU Health NEW ORLEANS

Chemical Name	Alternate Name(s)	CAS No.
Mercury(II) Iodide	Mercuric Iodide	7774-29-0
Mercury(II) Nitrate	Mercuric Nitrate	10045-94-0
Mercury(II) Oxide	Mercuric Oxide	21908-53-2
Mercury(II) Thiocyanate	Mercuric Sulfocyanate	592-85-8
Methacrolein Diacetate		10476-95-6
Methamidophos		10265-92-6
Methanesulfonyl Fluoride	Mesyl Fluoride; Fumette	558-25-8
Methidathion	Supracide	950-37-8
Methiocarb	Mecaptodimethur	2032-65-7
Methoxyethylmercuric Acetate		151-38-2
Methoxyethylmercuric Chloride		123-88-6
Methoxyflurane	Metofane; Penthrane	76-38-0
Methyl Chloroformate	Methyl Chlorocarbonate	79-22-1
Methyl Fluoroacetate	Fluoroacetic Acid, Methyl Ester	453-18-9
Methyl Isocyanate		624-83-9
Methyl Lactonitrile, 2-	Acetone Cyanohydrin	75-86-5
Methyl Phosphonic Dichloride		676-97-1
Methylaziridine, 2-	Propyleneimine	75-55-8
Methylhydrazine		60-34-4
Mevinphos	Phosdrin	7786-34-7
Mexacarbate		315-18-4
Mitomycin C	Ametycin	50-07-7
Monensin Sodium	Coban	22373-78-0
Monochrotophos		6923-22-4
Muscimol	Pantherin; Aminomethyl-3-isoxyzole, 5-	2763-96-4
Mustard Gas	Bis(2-Chloroethyl)sulfide	505-60-2
Naphthylthiourea, alpha-	ANTU	86-88-4
Nickel Carbonyl	Nickel Tetracarbonyl	13463-39-3
Nickel Cyanide	Dicyanonickel	557-19-7
Nicotine		54-11-5
Nicotine Sulfate		65-30-5
Nitric Acid (Red Fuming)		7697-37-2
Nitric Oxide	Nitrogen Monoxide	10102-43-9
Nitrobenzonitrile, p-		619-72-7
Nitrogen Dioxide		10102-44-0
Nitrogen Mustard	Dichloro-N-methyldiethylamine, 2,2'-	51-75-2
Nitrogen Tetroxide		10544-72-6
Nitrosodimethylamine, N-	Dimethylnitrosamine	62-75-9
Nitrosomethylvinylamine, N-		4549-40-0
Norbormide		991-42-4
Ochratoxin A		303-47-9
Octamethyldiphosphoramide	Octamethylpyrophosphoramide	152-16-9
Osmium Tetroxide		20816-12-0
Ouabain	Acocantherin	630-60-4
Oxamyl		23135-22-0
Oxidiphenoxarsine, 10,10'-	Vinadine	58-36-6
Oxotremorine		70-22-4
Oxygen Difluoride	Fluorine Oxide; Oxygen Fluoride	7783-41-7
Parathion	Phosphostigmine	56-38-2
Parathion-Methyl	Methyl Parathione; Metaphor	298-00-0
Pentaborane(9)	Nonahydropentaborane	19624-22-7
Pentachlorophenol		87-86-5
Phalloidin	Phalloidon from Amanita Phalloides	17466-45-4

Chemical Name	Alternate Name(s)	CAS No.
Thallium Malonate	Thallous Malonate	2757-18-8
Thallium Sulfate		10031-59-1
Thallium(I) Acetate	Thallous Acetate	563-68-8
Thallium(I) Carbonate	Thallous Carbonate	6533-73-9
Thallium(I) Chloride	Thallous Chloride	7791-12-0
Thallium(I) Nitrate	Thallous Nitrate	10102-45-1
Thallium(I) Sulfate	Thallous Sulfate	7446-18-6
Thallium(III) Oxide	Thallic Oxide	1314-32-5
Thiocarbazide	Thiocarbohydrazide - TCH	2231-57-4
Thiodan	Endosulfan	115-29-7
Thiofanox	Dacamox	39196-18-4
Thionazin		297-97-2
Thiosemicarbazide	Thiocarbamylhydrazine	79-19-6
Tirpate	2,4-Dimethyl-1,3-dithiolane-2-carboxaldehyde O-(methylcarbamoyl)oxime	26419-73-8
Toluene Diisocyanate	Methyl-m-phenylene Diisocyanate	26471-62-5
Toluene-2,4-Diisocyanate		584-84-9
Toxaphene	Camphechlor	8001-35-2
Triamiphos		1031-47-6
Tricarbonylmethylcyclopentadienyl Manganese		12108-13-3
Trichloronate	Agrisil; Phytosol	327-98-0
Trimethylopropane Phosphite		824-11-3
Trimethyltin Chloride	Chlorotrimethylstannate	1066-45-1
Triphenyltin Hydroxide		76-87-9
Tris(1-aziridinyl)phosphine Sulfide	Thiotepa	52-24-4
Tris(2-chloroethyl)amine		555-77-1
Tubocurarine	Tubocurarine Hydrochloride	57-94-3
Tungsten Hexafluoride	Tungsten(VI) Fluoride	7783-82-6
Uracil Mustard	5-(Bis-(2-chloroethyl)-amino)-uracil	66-75-1
Valinomycin, (+)-	Valinomicin	2001-95-8
Vanadium(V) Oxide	Vanadium Pentoxide	1314-62-1
Warfarin		81-81-2
Warfarin Sodium	Sodium Coumadin	129-06-6
Yohimbine Hydrochloride		65-19-0
Zinc Phosphide		1314-84-7
Zinc Silicofluoride	Zinc Fluorosilicate	16871-71-9

DHS Chemical Facility Anti-Terrorism Standards (CFATS) - Chemicals Of Interest (COI) List

Chemical Name	Synonym	CAS
Acetone cyanohydrin, stabilized		75-86-5
Acetyl bromide		506-96-7
Acetyl chloride		75-36-5
Acetyl iodide		507-02-8
Allyltrichlorosilane, stabilized		107-37-9
Aluminum bromide, anhydrous		7727-15-3
Aluminum chloride, anhydrous		7446-70-0
Aluminum phosphide		20859-73-8
Amyltrichlorosilane		107-72-2
Antimony pentafluoride		7783-70-2
Arsenic trichloride	[Arsenous trichloride]	7784-34-1
Arsine		7784-42-1
1,4-Bis(2-chloroethylthio)-n-butane		142868-93-7
Bis(2-chloroethylthio)methane		63869-13-6
Bis(2-chloroethylthiomethyl)ether		63918-90-1
1,5-Bis(2-chloroethylthio)-n-pentane		142868-94-8
1,3-Bis(2-chloroethylthio)-n-propane		63905-10-2
Boron tribromide		10294-33-4
Boron trichloride	[Borane, trichloro]	10294-34-5
Boron trifluoride	[Borane, trifluoro]	7637-07-2
Bromine chloride		13863-41-7
Bromine pentafluoride		7789-30-2

Bromine trifluoride		7787-71-5
Butyltrichlorosilane		7521-80-4

Calcium hydrosulfite	[Calcium dithionite]	15512-36-4
Calcium phosphide		1305-99-3
Carbonyl fluoride		353-50-4
Chlorine dioxide	[Chlorine oxide, (ClO2)]	10049-04-4
Chlorine pentafluoride		13637-63-3
Chlorine trifluoride		7790-91-2
Chloroacetyl chloride		79-04-9
2-Chloroethylchloro-methylsulfide		2625-76-5
Chlorosarin	[o-Isopropyl methylphosphonochloridate]	1445-76-7
Chlorosoman	[o-Pinacolyl methylphosphonochloridate]	7040-57-5
Chlorosulfonic acid		7790-94-5
Chromium oxychloride		14977-61-8
Cyanogen	[Ethanedinitrile]	460-19-5
Cyanogen chloride		506-77-4
Cyclohexyltrichlorosilane		98-12-4
DF	Methyl phosphonyl difluoride	676-99-3
Diborane		19287-45-7
Dichlorosilane	[Silane, dichloro-]	4109-96-0
N,N-(2-diethylamino)ethanethiol		100-38-9
Diethyldichlorosilane		1719-53-5
o,o-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate		78-53-5
Diethyl methylphosphonite		15715-41-0

N,N-Diethyl phosphoramidic dichloride		1498-54-0
N,N-(2-diisopropylamino)ethanethiol	N,N-diisopropyl-(beta)-aminoethane thiol	5842-07-9
N,N-Diisopropyl phosphoramidic dichloride		23306-80-1
N,N-(2-dimethylamino)ethanethiol		108-02-1

Dimethyldichlorosilane	[Silane, dichlorodimethyl-]	75-78-5
N,N-Dimethyl phosphoramidic dichloride	[Dimethylphosphoramido-dichloridate]	677-43-0
Dinitrogen tetroxide		10544-72-6
Diphenyldichlorosilane		80-10-4
N,N-(2-dipropylamino)ethanethiol		5842-06-8
N,N-Dipropyl phosphoramidic dichloride		40881-98-9
Dodecyltrichlorosilane		4484-72-4
Ethyl phosphonyl difluoride		753-98-0
Ethylphosphonothioic dichloride		993-43-1
Ethyltrichlorosilane		115-21-9
Fluorine		7782-41-4
Fluorosulfonic acid		7789-21-1
Germane		7782-65-2
Germanium tetrafluoride		7783-58-6
Hexafluoroacetone		684-16-2
Hexyltrichlorosilane		928-65-4
HN1 (nitrogen mustard-1)	[Bis(2-chloroethyl)ethylamine]	538-07-8
HN2 (nitrogen mustard-2)	[Bis(2-chloroethyl)methylamine]	51-75-2
HN3 (nitrogen mustard-3)	[Tris(2-chloroethyl)amine]	555-77-1
Hydrogen cyanide	[Hydrocyanic acid]	74-90-8

Hydrogen fluoride (anhydrous)		7664-39-3
Hydrogen selenide		7783-07-5
Hydrogen sulfide		7783-06-4
Iodine pentafluoride		7783-66-6
Isopropylphosphonothioic dichloride		1498-60-8
Isopropylphosphonyl difluoride		677-42-9
Lewisite 1	[2-Chlorovinyldichloroarsine]	541-25-3
Lewisite 2	[Bis(2-chlorovinyl)chloroarsine]	40334-69-8

Lewisite 3	[Tris(2-chlorovinyl)arsine]	40334-70-1
Lithium amide		7782-89-0
Lithium nitride		26134-62-3
Magnesium diamide		7803-54-5
Magnesium phosphide		12057-74-8
Methylchlorosilane		993-00-0
Methyldichlorosilane		75-54-7
Methylphenyldichlorosilane		149-74-6
Methylphosphonothioic dichloride		676-98-2
Methyltrichlorosilane	[Silane, trichloromethyl-]	75-79-6
Sulfur mustard (Mustard gas (H))	[Bis(2-chloroethyl)sulfide]	505-60-2
O-Mustard (T)	[Bis(2-chloroethylthioethyl)ether]	63918-89-8
Nitric oxide	[Nitrogen oxide (NO)]	10102-43-9
Nitrogen mustard hydrochloride	[Bis(2-chloroethyl)methylamine hydrochloride]	55-86-7
Nitrogen trioxide		10544-73-7
Nitrosyl chloride		2696-92-6
Nonyltrichlorosilane		5283-67-0

Octadecyltrichlorosilane		112-04-9
Octyltrichlorosilane		5283-66-9
Oxygen difluoride		7783-41-7
Perchloryl fluoride		7616-94-6
Phenyltrichlorosilane		98-13-5
Phosgene	[Carbonic dichloride] or [carbonyldichloride]	75-44-5
Phosphine		7803-51-2
Phosphorus pentabromide		7789-69-7
Phosphorus pentachloride		10026-13-8
Phosphorus pentasulfide		1314-80-3

Phosphorus trichloride		7719-12-2
Potassium cyanide		151-50-8
Potassium phosphide		20770-41-6
Propylphosphonothioic dichloride		2524-01-8
Propylphosphonyl difluoride		690-14-2
Propyltrichlorosilane		141-57-1
QL	[o-Ethyl-o-2-diisopropylaminoethyl methylphosphonite]	57856-11-8
Sarin	[o-Isopropyl methylphosphonofluoridate]	107-44-8
Selenium hexafluoride		7783-79-1
Sesquimustard	[1,2-Bis(2-chloroethylthio)ethane]	3563-36-8
Silicon tetrachloride		10026-04-7

Silicon tetrafluoride		7783-61-1
Sodium cyanide		143-33-9
Sodium hydrosulfite	[Sodium dithionite]	7775-14-6
Sodium phosphide		12058-85-4
Soman	[o-Pinacolyl methylphosphonofluoridate]	96-64-0
Stibine		7803-52-3
Strontium phosphide		12504-16-4
Sulfur tetrafluoride	[Sulfur fluoride (SF4), (T-4)-]	7783-60-0
Sulfuryl chloride		7791-25-5
Tabun	[o-Ethyl-N,N-dimethylphosphoramido-cyanidate]	77-81-6
Tellurium hexafluoride		7783-80-4
Thiodiglycol	[Bis(2-hydroxyethyl)sulfide]	111-48-8
Thionyl chloride		7719-09-7
Titanium tetrachloride	[Titanium chloride (TiCl4) (T-4)-]	7550-45-0
Trichlorosilane	[Silane, trichloro-]	10025-78-2
Trifluoroacetyl chloride		354-32-5
Trimethylchlorosilane	[Silane, chlorotrimethyl-]	75-77-4
Tungsten hexafluoride		7783-82-6
Vinyltrichlorosilane		75-94-5
VX	[o-Ethyl-S-2-diisopropylaminoethyl methyl phosphonothiolate]	50782-69-9
Zinc hydrosulfite	[Zinc dithionite]	7779-86-4

Approval for Purchase of High Risk Chemicals Form

Approval for Purchase of High Risk Chemicals		
Date:	**Phone:**	**E-Mail Address:**
Department:	**Research Group:**	**Lab Room Number:**
Chemical name and most common synonyms:		
CAS Number: **Manufacturer:**		**Product Number:**
Signature: _____ **Approving PI Name/Title:** _____		

Appendix C