TGG: ~~JBL~~: ~~EGJ~~: AC: ~~AGO~~

XF: NUNE

TO: Eric Meyer

FROM: T. G. Grumbles
DATE: April 29, 1991

Interoffice Communication

VISTA

SUBJ: PROPOSED LOUISIANA PROCESS SAFETY REGULATIONS

Attached is an early draft of Louisiana Process Safety Regulations. The requirements of this proposal exceed OSHA's proposed rules and would create greater administrative and technical burdens than those regulations.

If we feel we should make comments, they should be coordinated through Mike Hayes at the LCCP.

T. G. Grumbles

dlj

cc: T. H. Huffman

M. G. Hayes, J. Friend-LCCP

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State of Louisiana

Department of Environmental Quality

BUDDY ROEMER
Governor

PAUL TEMPLET
Secretary

April 19, 1991

To: Advisory Committee Member

Re: Accident Prevention Advisory Committee Meeting

Dear Committee Member,

The first meeting of the committee to consider Air Toxics Accident Prevention regulations will take place April 25, at 9:30 AM. The meeting will be held at the sixth floor hearing room at our new facility on Bluebonnet Dr.

For those of you who have not seen our new building, it is located at the back of the Swaggard Ministry complex, on the left side of Bluebonnet as you travel from Perkins toward the I-10. As you enter from either entrance on that side of the complex, follow the drive to the back parking lot and look for a six-story gold-colored glass building. Visitor parking is available in front, or you can park in any slot marked DEQ parking.

Please find enclosed a copy of the draft regulations and an agenda. We hope you will have adequate time to review the regulations before the meeting. If you should have any questions or problems, please feel free to call me at 765-0129. We look forward to seeing everyone at the meeting.

Sincerely yours,

William H. Perkins
Air Quality Division, DEQ

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MEETING AGENDA
April 25, 1991
Accident Prevention Advisory Committee
(Tentative Agenda)

Time	Activity	Responsible Person
9:30	Start Meeting	William Perkins
9:45	Orientation	Chuck Hendrich
10:00	Review Proposed Rule	All
open	Next Meeting Scheduled	All
	Meeting Closed	

PLEASE NOTE

All members of the advisory committee should have received a copy of the newly drafted proposed Accident Prevention rule. Please be prepared to participate in a significant edit of this first draft of the proposed rule at this meeting. However, any comments regarding edits should identify specifically what is "wrong", why the phrase or section is thought to be in error, the specific phrasing that would be desired to correct the suspected error and why the new phrasing is an improvement. General comments regarding the dislike for a phrase cannot support future edits without a recommended direction to correct errors!

DRAFT/April 19, 1991

Title 33
ENVIRONMENTAL QUALITY

Part III. Air

Chapter 59. Chemical Accident Prevention and Minimization of Consequences

Subchapter A Applicability, Definitions, Prohibitions and General Provisions.

§5901. Applicability

The requirements of this chapter apply to any facility at which there is present an amount of any Louisiana Extremely Hazardous Substance equal to or greater than its threshold planning quantity (See Table 59.1); or any facility designated, after public notice and opportunity for comment, by the Governor. For purposes of this chapter, an "weight of any Louisiana Extremely Hazardous Substance" means the total amount of a Louisiana Extremely Hazardous Substance present at any one time at a facility at concentrations greater than one percent by weight, regardless of location, number of containers, or method of storage.

§5903. Definitions

Accidental Release--The direct or indirect introduction of a Louisiana Extremely Hazardous Substance into the air under circumstances which are not authorized pursuant to any permit or emission limitation or standard.

Facility--All buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by

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the same person (or by any person which controls, is controlled by, or under common control with, such person).

Louisiana Extremely Hazardous Substance (LEHS)--

1. A substance listed in Table 59.1 of this chapter.

2. Any flammable liquid or flammable gas, except for:

a. Hydrocarbon fuels used solely for workplace consumption as a fuel;

b. Flammable liquids stored or transferred which are kept below their atmospheric boiling point without benefit of chilling or refrigeration.

Threshold Planning Quantity--The quantity of an LHES in pounds at, or above, which a facility is required to comply with this Chapter. For a substance referenced in Table 59.1, the quantity listed in the column "threshold planning quantity" for that substance. For flammable liquids and flammable gases, 10,000 pounds.

§5905. Prohibitions

A. No owner or operator of any facility regulated under this Chapter shall operate a facility unless they annually (during each calendar year) report to the Department of Public Safety and Corrections in accordance with LAC 33:V.Chapter 101 on forms provided by that Department.

B. No owner or operator of any existing facility regulated under this Chapter shall, after (insert date-365 calendar days

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from promulgation of this Chapter), operate a facility unless they have submitted a Risk Management Plan to the Department of Environmental Quality, Air Quality Division and have received a written letter of acceptance from the department.

C. No owner or operator of a new facility regulated under this Chapter shall startup a facility unless they have submitted a Risk Management Plan to the Department of Environmental Quality, Air Quality Division and have received a written letter of acceptance from the department.

D. No owner or operator of a facility shall handle, use, store, manufacture, or transport an LHES without submitting a Risk Management Plan to the Department of Environmental Quality, Air Quality Division and have received a written letter of acceptance from the department prior to handling, using, storing, manufacturing, or transporting the LHES at the facility in an amount equal to or greater than its threshold planning quantity.

E. No owner or operator of any facility regulated under this Chapter shall continue operation of the facility without annual notification to the Department of Environmental Quality, Air Quality Division, as specified in Paragraph B.3.

§5907 General Provisions

A. Calculation of Threshold Planning Quantities for Solids and Mixtures

1. If a container or storage vessel holds a mixture or solution of a Louisiana Extremely Hazardous Substance, then the

concentration of Louisiana Extremely Hazardous Substance, in weight percent (greater than 1 percent), shall be multiplied by the mass (in pounds) in the vessel to determine the actual quantity of Louisiana Extremely Hazardous Substance therein.

2. Louisiana Extremely Hazardous Substances that are solids are subject to either of two threshold planning quantities as shown in Table 59.1 (i.e., 500/10,000 pounds). The lower quantity applies only if the solid exists in powdered form and has a particle size less than 100 microns; or is handled in solution or in molten form; or meets the criteria for a National Fire Protection Association (NFPA) rating of 2, 3 or 4 for reactivity. If the solid does not meet any of these criteria, it is subject to the upper (10,000 pound) threshold planning quantity as shown in Table 59.1.

3. The 100 micron level weight may be determined by multiplying the weight percent of solid with a particle size less than 100 microns in a particular container by the total weight of solids in the container.

4. The weight of solid in solution may be determined by multiplying the weight percent of solid in the solution in a particular container by the total weight of solution in the container.

5. The weight of solid in molten form must be multiplied by 0.3 to determine whether the lower threshold planning quantity is met.

B. Risk Management Information

1. Risk Management Plans which are submitted to the Department of Environmental Quality shall contain, as a minimum, the following:

a. A list of LHESs which are handled, used, stored, manufactured, or transported in quantities greater than or equal to the threshold planning quantity with information on all of the methods and conditions of storage, and with material safety data sheets for each LHES that identifies the substance's toxicity, permissible exposure limits, reactivity, corrosivity, and chemical and thermal stability.

b. A summary of the facility's process hazard analysis program.

c. A summary of the facility's filing system, including internal and external correspondence, and a list of operating procedures.

d. A description of the facility's preventive maintenance program.

e. A description of the operator training program, and contractor awareness training activities.

f. A description of emergency response plans with names of site personnel responsible for emergency and environmental activities, phone numbers of responsible persons, and letters from the Local Emergency Response Commission (LERC) and the local fire department acknowledging receipt of Sara III emergency

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planning information.

g. A description of accident investigation procedures and Risk Management Program.

h. A summary of the "worst-case, single-component failure" accident and "most probable accident" with an explanation of planned response activities to minimize the impact of such events.

i. A summary of all accidental or emergency LHES releases in the past five years and measures taken to prevent similar events in the future, and incidents which have occurred at other facilities throughout the United States at facilities which are similar and which have impacted practices and procedures.

j. A projected schedule for emergency response training drills in cooperation with the Local Emergency Response Committees (LERCs) and local response units (e.g. police, fire department).

k. A copy of the annual notification given to schools, hospitals, registered nursing homes, and registered day-care facilities as required in Subsection D of this Section.

2. Risk Management data which shall be available to the Department of Environmental Quality upon visiting the facility, or upon request at the Department's office, shall include, as a minimum, the following:

a. Process technology information

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i. process flow diagrams (e.g., skematics, P&IDs, etc...);

ii. process chemistry, chemical balances, and chemical kinetics data;

iii. process flow calculations;

iv. process control logic diagrams and electrical circuit diagrams;

v. equipment, component, and instrumentation design specifications and process specifications; and

vi. process data, operating procedures, process specifications, logsheets, checkoff sheets, etc.... during startup, shutdown, and continuous or batch operations, and deviations outside the process specifications;

b. Risk assessments for equipment associated with LHES operations, and the methods of determining the risk.

c. Internal and external risk management audit procedures.

d. A topographical map and aerial photograph of the site and surrounding environs with dimensional key.

e. Auxiliary systems (supply water, sewage, drainage, etc...) diagrams.

f. A "worst-case" accident analysis of a "single-component failure" with exposure of the closest public and the most populous public area near the facility with topographical map overlay and emergency response plan.

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g. Incident reports regarding accidents and deviations from procedures and response activities to prevent similar incidents and incident reports from similar facilities nationwide with local facility evaluations of local improvements related to comparable problems.

and h. Emergency Planning and Louisiana Community Right to Know Information.

i. Chemical storage records and site plan including the storage tank locations.

j. Records which document the operation of the facility and execution of the programs referenced in Subparagraphs B.1.a through h.

3. Annually, between July 1st and August 31st, all facilities governed by this Chapter shall submit an updated report to the Department of Environmental Quality, Air Quality Division which shall include, as a minimum, the following:

a. A summary of all accidental or emergency releases which occurred in the past calendar year.

b. Actions which were taken in response to each release to notify emergency response groups, minimize the release and mitigate any damages.

c. Actions taken to prevent similar events from occurring in the future.

d. A comparison of these events to potentially similar events in the past, and how the events are and are not the same.

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e. Modifications which were made to programs, procedures, or processes referenced in Subparagraphs B.1.a through h, and the reasons for those changes.

C. Programs

1. The Process Hazard Analysis Program shall, as a minimum, contain the following:

a. A list of valves, piping, tanks, and other components and subcomponents which identifies the probability of that item to fail in its applicable situation. If a specific item is used at several locations under similar situations, the item need only be listed once.

b. For the items in the highest potential for failure (upper 25% of all failure potentials), identify the quantities of materials that could be released from any single-component failure and the quantities and characteristics (e.g., flammable, toxic, corrosive, etc...) of the material(s) released.

c. Identify the complexity of the process, as a minimum, identify the process from self-controlling to multiple side reactions, from endothermic to exothermic, from automatic shutdown with minor controls to runaway reactions without any possible control, and evaluate all these factors related to a potential accident.

d. The severity of operating conditions including, high pressure, high temperature, corrosive and/or abrasive materials, and the compatibility of materials of construction for the

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conditions and long term exposure of the materials to the process conditions.

e. The proximity of the potential risk to plant and offsite personnel, prevailing wind speed and direction, and time delay before exposing the closest public to any airborne release.

2. The Preventive Maintenance Program shall, as a minimum, contain the following:

a. A list of valves, piping, tanks, and other components and subcomponents which identifies the probability of that item to fail (mean time between failures) in its applicable situation. If a specific item is used at several locations under similar situations, the item need only be listed once.

b. Maintenance records indicating what maintenance work was performed on which items, where, when, why, how and with what results.

c. Equipment and component testing records during construction or maintenance activities, and as a continual program to detect and repair deficient components.

d. The mean-time-between-failure projections for equipment and components.

e. A written program strategy which documents the Preventive Maintenance Program, responsible individuals for directing and controlling the program, methods of projecting and scheduling projected maintenance activities to prevent failure of components during process operations, a data control and filing

system, and the process of directing maintenance from the generation of a work order through the completion of the repairs and back to recording the completion of the preventive maintenance work.

3. The Operator Training Program shall, as a minimum, contain the following:

a. A listing of all plant personnel by job title and job responsibility.

b. A job task analysis by job title that identifies activities that are to be performed by that individual and the judgements and decisions which are required to be made.

c. Identification of the knowledge and experience that is required to enable an individual in a specific job title to perform their responsible tasks without any expected errors.

d. A sequence of training, testing and evaluation of personnel to ensure that personnel holding a specific job title are capable of performing their required tasks.

e. Documentation on all plant personnel by name which contains a record of their training, development and testing that was conducted by the company, or through the individual's efforts, to ensure that the individual is capable of properly executing the tasks assigned to their job title.

4. The Risk Management Program shall, as a minimum, contain the following:

a. A plant-wide evaluation of the most probable

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failure(s), or accident(s), and emergency response plans to minimize any releases to the environment, or exposure of the general public to the released chemical(s).

b. A plant-wide evaluation of the most endangering failure(s), or accident(s), and emergency response plans to minimize any releases to the environment, or exposure of the general public to the released chemical(s). The most endangering accident is not to be limited by probability. If it is possible, it is significant.

c. A listing of the 25% most common equipment, or component, failures expected to occur (the mean-time-between-failure multiplied by the number of such components at the facility) and emergency response plans to minimize any releases to the environment, or exposure of the general public to the released chemical(s).

d. A written program strategy which documents the methods for monitoring accidents from similar facilities, or of similar equipment and components used at the facility, responsible individuals for directing and conducting the monitoring, methods of evaluating the applicable risk of similar events occurring at the facility and response mechanisms to control and minimize similar potential events from occurring at the facility.

D. Requirements for Public Notice

1. Each owner or operator shall annually (once during each

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calendar year) provide written notification to all schools, hospitals, registered nursing homes, and registered day-care facilities located within 3,000 feet of the facility fenceline of the following:

a. The identities and quantities of the Louisiana Extremely Hazardous Substances used at the facility;

b. A description of the hazards that these substances pose;

c. An explanation of how public notification will be made when an accident or release occurs at the facility;

d. The appropriate actions to be taken in the event of an accident or release at the facility;

e. A description of the modes of transportation used to transport Louisiana Extremely Hazardous Substances to or from the facility;

f. A map showing the location of the facility, the location of all schools, hospitals, registered nursing homes, and registered day-care facilities located within 3,000 feet of the facility fenceline, and the location of transportation routes likely to be used to transport Louisiana Extremely Hazardous Substances to or from the facility.

2. Each owner or operator shall provide written pre-notification to schools, hospitals, registered nursing homes, and registered day-care facilities of the date, time, and location of any hazardous chemical exercises to be conducted by the facility.

3. Notices may be made through the local newspaper.

AUTHORITY NOTE: Promulgated in accordance with R.S. 30:2054.

HISTORICAL NOTE: Promulgated by the Department of Environmental Quality, Office of Air Quality and Radiation Protection, Air Quality Division, LR

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TABLE 59.1

THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES

(ALPHABETICAL ORDER)

Cas No.	Chemical Name	Threshold planning quantity (pounds)
75-86-6	Acetone Cyanohnydrin	1,000
1752-30-3	Acetone Thiosemicarbazide	1,000/1,000
107-02-8	Acrolein	500
79-06-1	Acrylamide	1,000/1,000
107-13-1	Acrylonitrile	10,000
814-68-6	Acrylyl Chloride	100
111-69-3	Adiponitrile	1,000
116-06-3	Aldicarb	100/10,000
309-00-2	Aldrin	500/10,000
107-18-6	Allyl Alcohol	1,000
107-11-9	Allylamine	500
20859-73-8	Aluminum Phosphide	500

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54-62-6	Aminopterin	500/10,000
78-53-5	Amiton	500
3734-97-2	Amiton Oxalate	100/10,000
7664-41-7	Ammonia	500
300-62-9	Amphetamine	1,000
62-53-3	Aniline	1,000
88-05-1	Aniline, 2,4,6-Trimethyl	500
7783-70-2	Antimony Pentafluoride	500
1397-94-0	Antimycin A	1,000/10,000
86-88-4	ANTU	500/10,000
1303-28-2	Arsenic Pentoxide	100/10,000
1327-53-3	Arsenous Oxide	100/10,000
7784-34-1	Arsenous Trichloride	500
7784-42-1	Arsine	100
2642-71-9	Azinphos-Ethyl	100/10,000
86-50-0	Azinphos-Methyl	10/10,000
98-87-3	Benzal Chloride	500
98-16-8	Benzenamine, 3-(Trifluoromethyl)	500
100-14-1	Benzene, 1-(Chloromethyl)-4-Nitro	500/10,000
98-05-5	Benzenearsonic Acid	10/10,000
3615-21-2	Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)	500/10,000
98-07-7	Benzotrichloride	100

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100-44-7	Benzyl Chloride	500
140-29-4	Benzyl Cyanide	500
15271-41-7	Bicyclo (2.2.1) Heptane-2 Carbonitrile, 5-Chloro-6-(((((Methylamino)Carbonyl) Oxy)Imino)-, (1a-(1-alpha, 2-beta, 4alpha, 5-alpha, 6E))-.	500/10,000
534-07-6	Bis (Chloromethyl) Ketone	10/10,000
4044-65-9	Bitoscanate	500/10,000
10294-34-5	Boron Trichloride	500
7637-07-2	Boron Trifluoride	500
353-42-4	Boron Trifluoride Compound with Methyl Ether (1:1)	1,000
28772-56-7	Bromadiolone	100/10,000
7726-95-6	Bromine	500
1306-19-0	Cadmium Oxide	100/10,000
2223-93-0	Cadmium Stearate	1,000/10,000
7778-44-1	Calcium Arsenate	500/10,000
8001-35-2	Camphechlor	500/10,000
56-25-7	Cantharidin	100/10,000
51-83-2	Carbachol Chloride	500/10,000
26419-73-8	Carbamic Acid, Methyl-, O-((((2, 4-Dimethyl-1, 3-Dithiolan-2-yl)Methylene)Amino)-	100/10,000
1563-66-2	Carbofuran	10/10,000

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75-15-0	Carbon Disulfide	10,000
786-19-6	Carbophenothion	500
57-74-9	Chlordane	1,000
470-90-6	Chlorfenvinfos	500
7782-50-5	Chlorine	100
24934-91-6	Chlormephos	500
999-81-5	Chlomequat Chloride	100/10,000
79-11-8	Chloroacetic Acid	100/10,000
107-07-3	Chloroethanol	500
627-11-2	Chloroethyl Chloroformate	1,000
67-66-3	Chloroform	10,000
542-88-1	Chloromethyl Ether	100
107-30-2	Chloromethyl Methyl Ether	100
3691-35-8	Chlorophacinone	100/10,000
1982-47-4	Chloroxuron	500/10,000
21923-23-9	Chlorthiophos	500
10025-73-7	Chromic Chloride	1/10,000
62207-76-5	Cobalt, ((2,2'-(1,2-Ethanediylbis (Nitrilomethylidyne))Bis(6-Fluorophenolato))(2-)-N,N', O,O,')-,.	100/10,000
10210-68-1	Cobalt Carbonyl	10/10,000
64-86-8	Colchicine	10/10,000
56-72-4	Coumaphos	100/10,000
5836-29-3	Coumatetralyl	500/10,000

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95-48-7	Cresol,o-	1,000/10,000
535-89-7	Crimidine	100/10,000
4170-30-3	Crotonaldehyde	1,000
123-73-9	Crotonaldehyde,(E)-	1,000
506-68-3	Cyanogen Bromide	500/10,000
506-78-5	Cyanogen Iodide	1,000/10,000
2636-26-2	Cyanophos	1,000
675-14-9	Cyanuric Fluoride	100
66-81-9	Cycloheximide	100/500
108-91-8	Cyclohexylamine	10,000
17702-41-9	Decaborane (14)	500/10,000
8065-48-3	Demeton	500
919-86-8	Demeton-S-Methyl	500
10311-84-9	Dialifor	100/10,000
19287-45-7	Diborane	100
111-44-4	Dichloroethyl Ether	10,000
149-74-6	Dichloromethylphenylsilane	1,000
62-73-7	Dichlorvos	1,000
141-66-2	Dicrotophos	100
1464-53-5	Diepoxybutane	500
814-49-3	Diethyl Chlorophospate	500
1642-54-2	Diethylcarbamazine Citrate	100/10,000
71-63-6	Digitoxin	100/10,000
2238-07-5	Diglycidyl Ether	1,000
20830-75-5	Digoxin	10/10,000

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115-26-4	Dimefox	500
60-51-5	Dimethoate	500/10,000
2524-03-0	Dimethyl Phosphoro-chloridothioate	500
77-78-1	Dimethyl Sulfate	500
75-78-5	Dimethyldichlorosilane	500
57-14-7	Dimethylhydrazine	1,000
99-98-9	Dimethyl-p-Phenylenediamine	10/10,000
644-64-4	Dimetilan	500/10,000
534-52-1	Dinitrocresol	10/10,000
88-85-7	Dinoseb	100/10,000
1420-07-1	Dinoterb	500/10,000
78-34-2	Dioxathion	500
82-66-6	Diphacinone	10/10,000
152-16-9	Diphosphoramide, Octamethyl	100
298-04-4	Disulfoton	500
514-73-8	Dithiazanine Iodide	500/10,000
541-53-7	Dithiobiuret	100/10,000
316-42-7	Emetine, Dihydrochloride	1/10,000
115-29-7	Endosulfan	10/10,000
2778-04-3	Endothion	500/10,000
72-20-8	Endrin	500/10,000
106-89-8	Epichlorohydrin	1,000
2104-64-5	EPN	100/10,000
50-14-6	Ergocalciferol	1,000/10,000

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379-79-3	Ergotamine Tartrate	500/10,000
1622-32-8	Ethanesulfonyl Chloride, 2-Chloro-	500
0140-87-1	Ethanol, 1,2-Dichloro-, Acetate	1,000
563-12-2	Ethion	1,000
3194-48-4	Ethoprophos	1,000
538-07-8	Ethylbis(2-Chloroethyl)Amine	500
371-62-0	Ethylene Fluorohydrin	10
75-21-8	Ethylene Oxide	1,000
107-15-3	Ethylenediamine	10,000
151-56-4	Ethyleneimine	500
542-90-5	Ethylthiocyanate	10,000
2224-92-6	Fenamiphos	10/10,000
122-14-5	Fenitrothion	500
115-90-2	Fensulfothion	500
4301-50-2	Fluenetil	100/10,000
7782-41-4	Fluorine	500
640-19-7	Fluoroacetamide	100/10,000
144-49-0	Fluoroacetic Acid	10/10,000
359-06-8	Fluoroacetyl Chloride	10
51-21-8	Fluorouracil	500/10,000
944-22-9	Fonofos	500
50-00-0	Formaldehyde	500
107-16-4	Formaldehyde Cyanohydrin	1,000

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3422-53-9	Formetanate Hydrochloride	500/10,000
2540-82-1	Formothion	100
7702-57-7	Formparanate	100/10,000
1548-32-3	Fosthietan	500
3878-19-1	Fuberidazole	100/10,000
110-00-9	Furan	500
7450-90-3	Gallium Trichloride	500/10,000
77-47-4	Hexachlorocyclopentadiene	100
4835-11-4	Hexamethylenediamine, N,N'-Dibutyl-	500
302-01-2	Hydrazine	1,000
74-90-8	Hydrocyanic Acid	100
7647-01-0	Hydrogen Chloride (Gas Only)	500
7664-39-3	Hydrogen Fluoride	100
7722-84-1	Hydrogen Peroxide (Conc >52%)	1,000
7783-07-5	Hydrogen Selenide	10
7783-06-4	Hydrogen Sulfide	500
123-31-9	Hydroquinone	500/10,000
3463-40-6	Iron, Pentacarbonyl-	100
297-78-9	Isobenzan	100/10,000
78-82-0	Isobutyronitrile	1,000
102-36-3	Isocyanic Acid, 3,4-Dichlorophenyl Ester	500/10,000
465-73-6	Isodrin	100/10,000

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55-91-4	Isofluorphate	100
4098-71-9	Isophorone Diisocyanate	100
108-23-6	Isopropyl Chloroformate	1,000
119-38-0	Isopropylmethylpyrazolyl Dimethylcarbamate	500
78-97-7	Lactonitrile	1,000
1609-90-5	Leptophos	500/10,000
541-25-3	Lewisite	10
58-89-9	Lindane	1,000/10,000
7580-67-8	Lithium Hydride	100
109-77-3	Malononitrile	500/10,000
2108-13-3	Manganese, Tricarbonyl Methylcyclopentadienyl	100
51-75-2	Mechlorethamine	10
950-10-7	Mephosfolan	500
12[illegible]7-7	Mercuric Acetate	500/10,000
7487-94-7	Mercuric Chloride	500/10,000
1908-53-2	Mercuric Oxide	500/10,000
0476-95-6	Methacrolein Diacetate	1,000
760-93-0	Methacrylic Anhydride	500
126-98-7	Methacrylonitrile	500
920-46-7	Methacryloyl Chloride	100
0674-80-7	Methacryloyloxyethyl Isocyanate	100
10265-92-6	Methamidophos	100/10,000

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558-25-8	Methanesulfonyl Fluoride	1,000
950-37-8	Methidathion	500/10,000
2032-65-7	Methiocarb	500/10,000
16752-77-5	Methomyl	500/10,000
151-38-2	Methoxyethylmercuric Acetate	500/10,000
80-63-7	Methyl 2-Chloroacrylate	500
74-83-9	Methyl Bromide	1,000
79-22-1	Methyl Chloroformate	500
60-34-4	Methyl Hydrazine	500
624-83-9	Methyl Isocyanate	500
556-61-6	Methyl Isothiocyanate	500
74-93-1	Methyl Mercaptan	500
3735-23-7	Methyl Phenkapton	500
676-97-1	Methyl Phosphonic Dichloride	100
556-64-9	Methyl Thiocyanate	10,000
94-4	Methyl Vinyl Ketone	10
502-39-6	Methylmercuric Dicyanamide	500/10,000
75-79-6	Methyltrichlorosilane	500
1129-41-5	Metolcarb	100/10,000
7786-34-7	Mevinphos	500
315-18-4	Mexacarbate	500/10,000
50-07-7	Mitomycin C	500/10,000
6923-22-4	Monocrotophos	10/10,000
2763-96-4	Muscimol	10,000
505-60-2	Mustard Gas	500

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13463-39-3	Nickel Carbonyl	1
54-11-5	Nicotine	100
65-30-5	Nicotine Sulfate	100/10,000
7697-37-2	Nitric Acid	1,000
10102-43-9	Nitric Oxide	100
98-95-3	Nitrobenzene	10,000
1122-60-7	Nitrocyclohexane	500
10102-44-0	Nitrogen Dioxide	100
62-75-9	Nitrosodimethylamine	1,000
991-42-4	Norbormide	100/10,000
0	Organorhodium Complex (PMN-82-147)	10/10,000
630-60-4	Ouabain	100/10,000
23135-22-0	Oxamyl	100/10,000
78-71-7	Oxetane, 3,3-Bis (Chloromethyl)	500
2497-07-6	Oxydisulfoton	500
10028-15-6	Ozone	100
1910-42-5	Paraquat	10/10,000
2074-50-2	Paraquat Methosulfate	10/10,000
56-38-2	Parathion	100
298-00-0	Parathion-Methyl	100/10,000
12002-03-8	Paris Green	500/10,000
19624-22-7	Pentaborane	500
2570-26-5	Pentadecylamine	100/10,000

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79-21-0	Peracetic Acid	500
594-42-3	Perchloromethylmercaptan	500
108-95-2	Phenol	500/10,000
4418-66-0	Phenol, 2,2'-Thiobis (4-Chloro-6-Methyl)	100/10,000
64-00-6	Phenol, 3-(1-Methylethyl)- Methylcarbamate	500/10,000
58-36-6	Phenoxarsine, 10,10'-Oxydi	500/10,000
696-28-6	Phenyl Dichloroarsine	500
59-88-1	Phenylthydrazine Hydrochloride	1,000/10,000
[illegible]-38-4	Phenylmercury Acetate	500/10,000
2097-19-0	Phenylsilatrane	100/10,000
103-85-5	Phenylthiourea	100/10,000
298-02-2	Phorate	10
4104-14-7	Phosacetim	100/10,000
947-02-4	Phosfolan	100/10,000
75-44-5	Phosgene	10
732-11-6	Phosmet	10/10,000
3171-21-6	Phosphamidon	100
7803-51-2	Phosphine	500
2703-13-1	Phosphonothioic Acid, Methyl-, O-Ethyl O-(Methylthio) Phenyl) Ester	500
0782-69-9	Phosphonothioic Acid, Methyl-,	

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	S-(2-(Bis(1-Methylethyl)Amino) Ethyl O-Ethyl Ester	100
2665-30-7	Phosphonothioic Acid, Methyl-, O-(4 Nitrophenyl) O-Phenyl Ester	500
3254-63-5	Phosphoric Acid, Dimethyl 4-(Methylthio) Phenyl Ester	500
2587-90-8	Phosphorothioic Acid, O,O-Dimethyl-S-(2-Methylthio) Ethyl Ester	500
7723-14-0	Phosphorus	100
0025-87-3	Phosphorus Oxychloride	500
0026-13-8	Phosphorus Pentachloride	500
1314-56-3	Phosphorus Pentoxide	10
7719-12-2	Phosphorus Trichloride	1,000
47-6	Physostigmine	100/10,000
-7	Physostigmine, Salicylate (1:1)	100/10,000
124-87-8	Picrotoxin	500/10,000
110-89-4	Piperidine	1,000
3503-41-1	Pirimifos-Ethyl	1,000
0124-50-2	Potassium Arsenite	500/10,000
151-50-8	Potassium Cyanide	100
506-61-6	Potassium Silver Cyanide	500
2631-37-0	Promecarb	500/10,000
106-96-7	Propargyl Bromide	10

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57-57-8	Propiolactone, Beta	500
107-12-0	Propionitrile	500
542-76-7	Propionitrile, 3-Chloro-	1,000
70-69-9	Propiophenone, 4-Amino-	100/10,000
109-61-5	Propyl Chloroformate	500
75-56-9	Propylene Oxide	10,000
75-55-8	Propyleneimine	10,000
2275-18-5	Prothoate	100/10,000
129-00-0	Pyrene	1,000/10,000
140-76-1	Pyridine, 2-Methyl 5-Vinyl	500
"-24-5	Pyridine, 4-Amino	500/10,000
1124-33-0	Pyridine, 4-Nitro-, 1-Oxide	500/10,000
3558-25-1	Pyriminil	100/10,000
4167-18-1	Salcomine	500/10,000
107-44-8	Sarin	10
7783-00-8	Selenious Acid	1,000/10,000
7791-23-3	Selenium Oxychloride	500
563-41-7	Semicarbazide Hydrochloride	1,000/10,000
3037-72-7	Silane, (4-Aminobutyl) Diethoxymethyl	1,000
7631-89-2	Sodium Arsenate	1,000/10,000
7784-46-5	Sodium Arsenite	500/10,000
6628-22-8	Sodium Azide (Na(N3))	500
124-65-2	Sodium Cacodylate	100/10,000
143-33-9	Sodium Cyanide (Na(CN))	100

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62-74-8	Sodium Fluoroacetate	10/10,000
3410-01-0	Sodium Selenate	100/10,000
0102-18-8	Sodium Selenite	100/10,000
0102-20-2	Sodium Tellurite	500/10,000
900-95-8	Stannane, Acetoxytriphenyl	500/10,000
57-24-9	Strychnine	100/10,000
60-41-3	Strychnine, Sulfate	100/10,000
3689-24-5	Sulfotep	500
3569-57-1	Sulfoxide, 3-Chloropropyl Octyl	500
7446-09-5	Sulfur Dioxide	500
7783-60-0	Sulfur Tetrafluoride	100
7446-11-9	Sulfur Trioxide	100
7664-93-9	Sulfuric Acid	1,000
77-81-6	Tabun	10
13494-80-9	Tellurium	500/10,000
7[illegible]-30-4	Tellurium Hexafluoride	100
107-49-3	TEPP	100
13071-79-9	Terbufos	100
78-00-2	Tetraethyllead	100
597-64-8	Tetraethyltin	100
75-74-1	Tetramethyllead	100
509-14-8	Tetranitromethane	500
10031-59-1	Thallium Sulfate	100/10,000
6533-73-9	Thallous Carbonate	100/10,000
7791-12-0	Thallous Chloride	100/10,000

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2757-18-8	Thallous Malonate	100/10,000
7446-18-6	Thallous Sulfate	100/10,000
2231-57-4	Thiocarbazide	1,000/10,000
39196-18-4	Thiofanox	100/10,000
297-97-2	Thionazin	500
108-98-5	Thiophenol	500
79-19-6	Thiosemicarbazide	100/10,000
5344-82-1	Thiourea, (2-Chlorophenyl)	100/10,000
614-78-8	Thiourea, (2-Methylphenyl)	500/10,000
7550-45-0	Titanium Tetrachloride	100
584-84-9	Toluene 2,4-Diisocyanate	500
91-08-7	Toluene 2,6-Diisocyanate	100
110-57-6	Trans-1,4-Dichlorobutene	500
1031-47-6	Triamiphos	500/10,000
24017-47-8	Triazofos	500
76-02-8	Trichloroacetyl Chloride	500
115-21-9	Trichloroethylsilane	500
327-98-0	Trichloronate	500
98-13-5	Trichlorophenylsilane	500
1558-25-4	Trichloro(Chloromethyl)Silane	100
27137-85-5	Trichloro(Dichlorophenyl)Silane	500
998-30-1	Triethoxysilane	500
75-77-4	Trimethylchlorosilane	1,000
824-11-3	Trimethylolpropane Phosphite	100/10,000
1066-45-1	Trimethyltin Chloride	500/10,000

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639-58-7	Triphenyltin Chloride	500/10,000
555-77-1	Tris (2-Chloroethyl) Amine	100
2001-95-8	Valinomycin	1,000/10,000
1314-62-1	Vanadium Pentoxide	100/10,000
108-05-4	Vinyl Acetate Monomer	1,000
81-81-2	Warfarin	500/10,000
129-06-6	Warfarin Sodium	100/10,000
28347-13-9	Xytylene Dichloride	100/10.000
58270-08-9	Zinc, Dichloro(4,4-Dimethyl-5 ((((Methylamino) Carbonyl)Oxy) Imino)Pentanenitrile)-,(T-4)-.	100/10,000
1314-84-7	Zinc Phosphide	500