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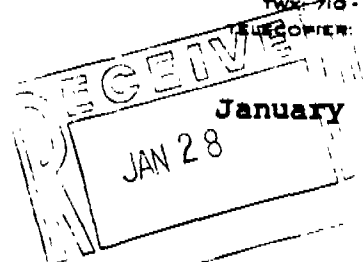
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OUR FILE NO



January 24, 1991

MEMORANDUM TO THE CMA VINYLIDENE CHLORIDE PANEL

Re: January 29-30 and 31, 1991
Meeting of EPA National Air
Pollution Control Techniques
Advisory Committee (NAPCTAC)

For Distribution by CMA
CHEMSTAR DIVISION

From BUSCH

Ref. No. 1191-004

On 1/24/91

Enclosed are materials relevant to the upcoming meeting of EPA's National Air Pollution Control Techniques Advisory Committee (NAPCTAC). The roster of members of this Committee is also included, as well as the tentative agenda and a document prepared by OAQPS entitled "Overview of the Hazardous Organic NESHAP (HON) Project" (Docket A-90-23) (Tab A).

Also enclosed are the docket indexes for Docket A-90-44 (tank vessel standards) (Tab B) and Docket A-90-49 (source category list) (Tab C). There are currently no docket entries for other dockets to be discussed at the meeting, including Docket A-90-47 (early emission reduction) or Docket A-90-48 (petition process).

You will notice that in the source category list (in Docket A-90-49) is a reference to a document dated September 1985 entitled "Locating and Estimating Air Emissions From Sources of Vinylidene Chloride" prepared by OAQPS. We will obtain copies of this document and distribute it to the Panel.

SL 063728

PAUL HASTINGS, JANOFSKY & WALKER

MEMORANDUM TO THE CMA VINYLIDENE CHLORIDE PANEL
January 24, 1991
Page 2

Randy Stone of our office will attend the meeting
for a number of clients and will prepare a summary report
after the meeting.



R. Bruce Dickson

SL 063729

Hazardous Organic NESHAP Wastewater
Docket No. A-90-23
Subcategory II-C
EPA Correspondence to Persons Outside the Agency
and to EPA Regional Offices

Document No.

Description

II-C-1

J.U. Crowder, EPA:OAQPS for J.B. Weigold, OAQPS:ESD to P.H. Arbesman, National Air Pollution Control Techniques Advisory Committee (NAPCTAC) Member, and list of addresses, December 18, 1990, EPA Notice of NAPCTAC meeting with attached "Overview of the Hazardous Organic NESHAP (HON) Project".

JUL - 7 1991



UNITED STATES ENVIRONMENTAL PROTECTION
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

A-90-23
II-C-1

December 18, 1990

JAN - 7 1991

NOTICE OF MEETING

The United States Environmental Protection Agency's (EPA) National Air Pollution Control Techniques Advisory Committee (NAPCTAC) will meet on January 29, 30, and 31, 1990 to review the subjects shown on the enclosed agenda. The meeting will be held at the Sheraton Imperial Hotel and Convention Center in Research Triangle Park, North Carolina. A copy of the NAPCTAC roster is also enclosed for your information.

The NAPCTAC meetings are always open to the public, and you are invited to attend and participate in the discussions. The enclosed executive summary provides an overview of the development of national emission standards for hazardous air pollutants (NESHAP) for the Synthetic Organic Chemical Manufacturing Industry (SOCMI). (This project is also referred to as the hazardous organic NESHAP, or HON.) Topics discussed in this paper include the project's scope; factors which will be evaluated in reaching a maximum achievable control technology (MACT) decision; MACT control technology candidates; the technical approach for estimating impacts; and the project schedule. The meeting will be announced in the Federal Register, but we wanted you to have this information because of your interest in this subject.

In order to properly plan the meeting, it is necessary for me to know prior to the meeting if you plan to make a presentation. Please call Ms. Mary Jane Clark at (919) 541-5571 by January 22 if you would like to make a presentation. If you do plan a presentation, please bring a copy of it to the meeting for our use in preparing the meeting minutes. If you wish to distribute your presentation to the Committee and staff, 25 copies will be sufficient. Written comments are certainly welcome, and we can schedule a meeting with your association to discuss your comments if you so desire.

For your information, a block of rooms (special rate of \$60 a day) is being held at the Sheraton until January 14 for use by those who wish to stay where the meeting is being held. When you make your reservations, please indicate that you will be attending the EPA meeting. The telephone number is (919) 941-5050. The Sheraton does provide a courtesy airport limousine.

Sincerely,

A handwritten signature in cursive script, appearing to read "James B. Weigold", is written over the typed name.

for James B. Weigold
Acting Director
Emission Standards Division

3 Enclosures

SL 063731

U.S. ENVIRONMENTAL PROTECTION AGENCY

NATIONAL AIR POLLUTION CONTROL TECHNIQUES ADVISORY COMMITTEE

Chairperson and Designated Federal Official

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*New Member

December 1990

SL 063732

TENTATIVE AGENDA

U. S. ENVIRONMENTAL PROTECTION AGENCY

NATIONAL AIR POLLUTION CONTROL TECHNIQUES ADVISORY COMMITTEE

Sheraton Imperial Hotel and Convention Center
Empire Rooms I, II, and III
I-40 Exit 282 at Page Road
Research Triangle Park, North Carolina 27709
(919) 941-5050

JANUARY 29, 30, AND 31, 1991

January 29 (Tuesday) - 9:00 a.m.

OVERVIEW OF TITLE III CLEAN AIR ACT AMENDMENTS
Summary of Title III Requirements for Hazardous Air Pollutants

DEFINITION OF SOURCE
Discussion of Alternative Definitions of "Source" and
Implementation of Title III Provisions

PETITION PROCESS
Status Report on the Development of Guidance for Petitions to Add or Delete
Compounds from the List of Hazardous Air Pollutants
(Title III of the Clean Air Act Amendments)

SOURCE CATEGORY LIST
Status Report on the Development of a List of Source Categories That Emit
the 189 Hazardous Air Pollutants in the Amendments
(Title III of the Clean Air Act Amendments)

EARLY EMISSION REDUCTION
Status Report on Implementation of the Title III Provisions for Early Reductions
to Defer Application of Maximum Achievable Control Technology (MACT)
(Title III of the Clean Air Act Amendments)

A LUNCH BREAK WILL BE TAKEN FROM 1:00-2:00 P.M. EACH DAY

12/13/90

SL 063733

OVERVIEW OF THE
HAZARDOUS ORGANIC NESHAPE (HON) PROJECT

Robert E. Rosensteel
U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emission Standards Division
MD-13
Research Triangle Park, North Carolina 27711

December 19, 1990

SL 063734

SECTION 1.0 INTRODUCTION

This paper provides an overview of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for hazardous organics, or HON, program. Topics discussed in this paper include the project's scope; elements to be considered in reaching a maximum achievable control technology (MACT) decision; MACT control technology candidates; the technical approach for estimating impacts; and project schedule. This paper is intended to provide a brief overview of the program; it does not provide a comprehensive discussion of the HON project.

The Clean Air Act Amendments of 1990 require that within two years of enactment, the Environmental Protection Agency promulgate emissions standards for 40 source categories that emit one or more of the 189 hazardous air pollutants (HAPs) listed in the Act. A standard must also be promulgated for coke ovens within two years of enactment. As part of this effort, the Agency will develop the HON rules. The HON will comprise five technology-based NESHAP standards, one for each of the following five emissions source types: process vents, wastewater handling and treatment operations, storage tanks, chemical transfer operations, and equipment leaks. The HON rules currently are scheduled to be proposed in November 1991 and promulgated in November 1992.

SECTION 2.0 SCOPE OF HON PROGRAM

The Synthetic Organic Chemical Manufacturing Industry (SOCMI) has been selected for regulation under the HON project. Several factors contributed to the decision to regulate the SOCMI. Most importantly, the SOCMI comprises a large part of the chemical industry and is therefore a significant contributor of organic HAP emissions. Existing new source performance standards (NSPS) for the SOCMI regulate air oxidation, distillation, and reactor process vents; equipment leaks; and volatile organic liquid (VOL) storage. All of these regulations are promulgated except for the reactor process vents rule, which has been proposed and will be promulgated within the next year. Existing NESHAP rules cover transfer and wastewater operations for benzene and vinyl chloride. These rules cover subcategories of the SOCMI while the HON rules will address control across the entire SOCMI. In selecting the SOCMI as the focus of the HON program, we can build upon the knowledge gained from these rule-making efforts, especially in the area of demonstrated control technology, and continue its efforts to regulate this major contributor of organic HAP emissions.

For the purpose of this program, the SOCFI is being defined as the 663 chemical production subcategories found in either the 40 CFR 60.489 list (Subpart VV) or the Industrial Organic Chemical Use Trees, prepared for the Agency by Radian Corporation and Paul W. Spalte Company (EPA 68-03-3078-SBR09 and EPA 68-03-3171-WA61, October 1983). A chemical production subcategory (e.g., butadiene) includes all of the production processes by which a particular chemical is manufactured (e.g., butadiene via catalytic reformation of C₄ streams and butadiene via dehydrogenation of C₄ compounds). A list of the 663 SOCFI chemical production subcategories can be found in Appendix A.

As currently envisioned, a SOCFI production process will be included within the HON rules if it meets either of the following criteria:

- (1) it produces one or more of the currently estimated 150 organic HAPs included in the CAA amendments list of 189 HAPs as a primary product, co-product, or by-product; or
- (2) it uses one or more of the currently estimated 150 organic HAPs as a reactant. (Production processes that use a HAP as a solvent will not be regulated under HON.)

The primary objective of the HON rules is to control air toxics; however, it is anticipated that significant control of VOC emissions will also be realized.

It is currently estimated that 388 of the 663 SOCFI chemical production subcategories meet one of the above criteria. The 388 potentially affected subcategories are indicated by the "Y" in the list of chemicals contained in Appendix A. Based on our characterization of the SOCFI, these 388 chemical production subcategories represent approximately 80,000-90,000 Gg of production capacity and 1,100-1,300 individual process units. (A process unit is defined as a set of process components used for a single chemical reaction or a set of related reactions to produce a product or set of related products.)

The HON rules will cover five emissions source types that are common to most production processes within the SOCFI. Individual rules for these five emissions source types will be proposed and promulgated under the HON. Decisions on NESHA for four emissions source types will be made under this rulemaking. The rule for the fifth emissions source type (equipment leaks) has been developed through the Equipment Leaks Regulatory Negotiation.

Therefore, regulatory analysis for equipment leaks will not be part of the HON but the rule will be proposed and promulgated as part of this rulemaking. However, national impacts of the negotiated equipment leaks rule will be developed as part of the HON. The emissions source types to be regulated are:

- (1) Process Vents -- air emissions originating from any of three process types: reactor processes, air oxidation reactor processes, or distillation operations;
- (2) Wastewater Treatment Operations -- air emissions resulting from volatilization of chemicals during wastewater collection and treatment operations;
- (3) Storage -- air emissions originating from storage tanks due to breathing or working losses;
- (4) Transfer Operations -- air emissions originating from filling transfer vehicles (i.e., tank trucks and railroad cars);
- (5) Equipment Leaks -- air emissions originating from the volatilization of chemicals from liquid or gaseous leaks from equipment components (i.e., pumps, valves, etc.).

SECTION 3.0 MACT DECISION ELEMENTS

The HON rules will be among the first to be based on the MACT concept. Despite the evolving nature of the MACT decision process, several things are known at this time. A MACT decision involves selecting both a control technology and the applicability criteria for requiring that technology. Control technologies have already been selected for the HON (see Section 4.0), and we are in the process of determining applicability, which is defined as the parameters that describe the sources required to implement the chosen control technology. These parameters may be emissions levels, production rates or capacities, chemical properties (e.g., vapor pressure), or physical characteristics of an emissions source (e.g., storage tank size).

In the course of determining applicability criteria, we will evaluate many factors, including:

- baseline emissions;
- emissions reduction;

- incremental emissions reduction (i.e., the difference in emissions reductions between two regulatory options of increasing stringency);
- annualized control costs;
- incremental annualized control costs (i.e., the difference in cost between two regulatory options of increasing stringency);
- total capital investment;
- percent of sources covered;
- percent of production volume covered; and
- other environmental impacts (e.g., additional electricity requirements, solid waste, etc.)

Separate MACT decisions will be made for new and existing sources. Each of these decisions will have stringency "floors" as defined in the new CAA amendments. For new sources, the maximum degree of emissions reduction shall not be less stringent than the control achieved in practice by the best-controlled similar source. For existing sources, the emissions standards must be at least as stringent as the average control achieved by the best-performing 12 percent of the existing sources.

One of the chief objectives in concurrently developing a set of five rules is the collective consideration of the environmental, economic, and energy impacts of all NESHAP options that will apply to the SOGMI. These goals will be accomplished by developing control options for four source types (the equipment leaks options is a constant) and then developing integrated regulatory alternatives that include varying control levels for each emissions source type. This provides maximum flexibility to optimize control within the regulatory alternatives and achieve the lowest cost solution.

SECTION 4.0 CONTROL TECHNOLOGY CANDIDATES FOR MACT

Recent rulemaking efforts have identified the range of demonstrated control technologies applicable to the SOGMI. A control technologies survey will not be undertaken because we are not aware of any demonstrated control technologies that perform with higher efficiencies.

Listed below are the control technologies currently identified as the basis for MACT, with their regulatory origin:

- Process Vents -- 98% HAP control through combustion. For halogenated streams, 98% control is achieved by using a thermal incinerator plus acid gas scrubbing. For non-halogenated streams, 98% control is achieved by using a thermal incinerator or a flare, whichever is less expensive. Regulatory origin: Air Oxidation, Distillation, and Reactor NSPS.
- Wastewater Treatment Operations -- 95 to 98% volatile HAP control or control to a target concentration using a controlled steam stripper system or equivalent control device. Regulatory origin: Benzene Waste Operations NESHAP.
- Storage -- approximately 95% HAP control, the exact level of control will depend on individual chemical properties. For halogenated streams, control is achieved by using a condenser. For non-halogenated streams, control is achieved through tank modification (e.g., installation of internal floating roof). Regulatory origin: Volatile Organic Liquid (VOC) Storage NSPS.
- Transfer Operations -- 98% HAP control through combustion following the same guidelines as Process Vents for halogenated and non-halogenated streams. Regulatory origin: Benzene Transfer Operations NESHAP.
- Equipment Leaks -- This control technology was developed by the Regulatory Negotiation process. Control efficiency improvement will depend on the facility's existing equipment leaks control program; minor improvements will be achieved in a facility that already has a good control program in place, while a facility with no control program will show a significant improvement in control levels. The equipment leaks control technology is a more aggressive leak detection and repair (LDAR) program than required by equipment leaks NSPS, and it includes a performance program to measure effectiveness. Regulatory origin: Equipment Leaks NSPS and Regulatory Negotiation for equipment leaks.

SECTION 5.0

TECHNICAL APPROACH FOR ESTIMATING EMISSIONS, EMISSIONS REDUCTIONS, AND CONTROL COSTS, AND OVERVIEW OF THE ECONOMIC ANALYSIS

This section discusses the technical approach used to estimate emissions, emissions reductions, control costs, and other impacts. It also contains a brief discussion of the economic analysis that will be performed for the HON.

A model emissions source approach was used to estimate emissions, emissions reductions, and control costs. The approach entailed four steps: industry characterization, model development, model assignments, and control impacts calculations.

Information gathered from a comprehensive literature search was used to characterize all of the SOCOMI to the process unit level, where possible. A limited amount of data were collected through the use of Section 114 authority to describe transfer operations and wastewater collection and treatment operations emissions source types. The industry was characterized in terms of process unit location, production capacity, capacity utilization, process description, chemical reaction stoichiometry, and existing State regulations. This phase of the project has been completed, although continuous improvement to the industry characterization is anticipated as new information sources are discovered or new information is provided.

Model emissions sources were developed to represent a wide range of sizes and expected conditions (e.g., halogenated versus non-halogenated, large and small stream flow rates, etc.). The resulting model emissions sources are: model process vent streams, model storage tanks, model wastewater streams, model transfer loading racks, and model equipment leak process units. A brief description of the emissions models for the five emissions source types is provided below:

- Process Vents. Three types of model process vents were developed: reactor, distillation, and air oxidation. For reactor process vents, reaction-type specific and generic models were developed; for distillation process vents, chemical-specific and generic vacuum and non-vacuum models were developed; and for air oxidation process vents, chemical-specific and generic models were developed.
- Storage Tanks. Five vertical fixed-roof model storage tanks and one horizontal/underground model tank were developed.

- Transfer Racks. Within each transfer vehicle type, multiple models accounting for different sizes and number of chemicals transferred were developed. Model transfer racks were developed for three types of transfer vehicles (marine vessel, tank truck, and railroad car).
- Equipment Leaks. Three process unit models to cover different levels of complexity were developed.
- Wastewater Treatment Operations. Models were developed based on available data to represent wastewater streams generated in SOCM1. The model stream parameters are flow (lpm/Gt/yr), volatile hazardous air pollutant concentration (ppmw) and wastewater strippability (%).

Model assignment is a two-step process. A model(s) for each of the five emissions source types is applied at the process unit level. Multiple models can be assigned depending on the emissions source type (e.g. multiple model storage tanks or model process vent streams). Models are assigned on the basis of process unit specific data (capacity), chemical properties (e.g., vapor pressure or halogenation status), and key production process characteristics (e.g., reaction type and process description). At this point, baseline emissions can be calculated. In order to calculate emissions reductions and control costs, the appropriate control technology candidate also needs to be assigned at the process unit level. This assignment again considers process unit, chemical, and production process data. An example of what is meant by the "appropriate" control technology candidate is the assignment of 98 percent HAP control by combustion through the use of a thermal incinerator plus acid gas scrubbing for a halogenated process vent or transfer loading rack. This is in contrast to assignment of a flare, which would be "inappropriate" for a halogenated stream.

The calculation of baseline emissions, emissions reductions, and control costs for each of the five emissions source types is performed at the process unit level for those chemical production categories where the industry characterization provided sufficient information for model assignment. Baseline emissions, emissions reductions, and control costs for the remaining chemical production categories are estimated through the use of defaults (to provide missing information) and then scaling up (proportioning) the results of the well-defined chemical production subcategories based on production capacity information to account for these chemical production subcategories.

At this time, enough information is known for approximately 40 percent of the SOCOMI chemical production subcategories to assign model emissions sources. This requires scaling-up to national impact based on capacity for the remaining 60 percent. However, we estimate that approximately 90-95 percent of the production capacity of the SOCOMI is represented by our well-defined chemical production subcategories.

A typical economic analysis of an air regulation addresses the price and production quantity changes that are associated with the increases in cost due to the air regulation. Because of the breadth of this regulation, it will be impossible to analyze each of the markets associated with the currently estimated 388 of the 663 SOCOMI chemical production subcategories that may have increased costs. Therefore, a subset of these subcategories will be chosen. The subset will include subcategories expected to have both typical and greater than average costs. Between 10 to 20 subcategories will be analyzed, and these analyses will be combined with more general industry profile information to provide a general picture of the type of economic impacts associated with the regulation.

SECTION 6.0 OVERVIEW PROGRAM SCHEDULE

<u>Activity</u>	<u>Schedule</u>
Industry Characterization	Complete
Development/Assignment of Model Plants	Complete
Development of Regulatory Alternatives	February-March 1991
Preparation of Regulatory Package for Agency Review	April-June 1991
Agency Review	July-August 1991
OMB Review	September-October 1991
Proposed Rule in <u>Federal Register</u>	November 1991
Public Hearing	December 1991
Final Rule in <u>Federal Register</u>	November 1992

NAPCTAC Appendix A

17-Dec-90

Chemical Name	Affected Chemicals
Acenaphthene (POM)	Y
Acetal	Y
Acetaldehyde	Y
Acetaldoi	Y
Acetamide	Y
Acetanilide	Y
Acetic acid	Y
Acetic anhydride	Y
Acetoacetanilide	Y
Acetoamides	
Acetone	Y
Acetone cyanohydrin (CN compound)	Y
Acetonitrile	Y
Acetophenone	Y
Acetyl chloride	Y
Acetylene	
Acetylene tetrabromide	
Acrolein	Y
Acrylamide	Y
Acrylic acid	Y
Acrylonitrile	Y
Adipic acid	
Adiponitrile	Y
Alizarin (POM)	Y
Alkyl anthraquinones	Y
Alkyl naphthalene sulfonates	Y
Allyl alcohol	Y
Allyl bromide	
Allyl chloride	Y
Allyl cyanide	Y
Aluminum acetate	
Aluminum formates	
Aminobenzoic acid (p-)	
Aminoethylethanolamine	
Aminophenol sulfonic acid	Y
Aminophenol (p-isomer)	Y
Amino-3,4,6-trichlorophenol (2-)	
Ammonium acetate	
Ammonium thiocyanate	Y
Amyl acetates	
Amyl alcohol (n-)	
Amyl alcohol (tert-)	
Amyl alcohols (mixed)	
Amyl chloride (n-)	
Amyl chlorides (mixed)	
Amyl ether	
Amylamines	
Aniline	Y
Aniline hydrochloride	Y
Anisidine (o-isomer)	Y
Anisole	

NAPCTAC Appendix A

17-Dec-90

Chemical Name	Affected Chemicals
Anthracene (POM)	Y
Anthranilic acid	
Anthraquinone (POM)	Y
Azobenzene	Y
Barium acetate	
Benzaldehyde	Y
Benzamide	
Benzene (including benzene from gasoline)	Y
Benzenedisulfonic acid	Y
Benzenesulfonic acid	Y
Benzidine	
Benzil (POM)	Y
Benzilic acid (POM)	Y
Benzoguanamine	
Benzoic acid	Y
Benzoin (POM)	Y
Benzonitrile	
Benzophenone (POM)	Y
Benzotrichloride	
Benzoyl chloride	Y
Benzoyl peroxide	
Benzyl acetate	Y
Benzyl alcohol	Y
Benzyl benzoate (POM)	Y
Benzyl chloride	Y
Benzyl dichloride	Y
Benzylamine	
Benzylideneacetone	
Biphenyl	Y
Bisphenol A (POM)	Y
Bis(Chloromethyl)Ether (dichloromethyl ether)	Y
Bromobenzene	Y
Bromoform	Y
Bromonaphthalene (POM)	Y
Butadiene (1,3-isomer)	Y
Butane	
Butanediol (1,4-isomer)	Y
Butyl acetate (n-)	
Butyl acetate (sec-)	
Butyl acetate (tert-)	
Butyl acrylate (n-isomer)	Y
Butyl alcohol (n-)	
Butyl alcohol (sec-)	
Butyl alcohol (tert-)	
Butyl benzoate	
Butyl chloride (tert-)	
Butyl hydroperoxide (tert-)	
Butyl mercaptan (2-Methyl-2-propanethiol)(tert-)	
Butyl mercaptan (n-)	
Butyl methacrylate (n-)	
Butyl methacrylate (tert-)	

SL 063744

NAPCTAC Appendix A

17-Dec-90

Chemical Name	Affected Chemicals
Butyl phenol (tert-)	
Butylamine (n-isomer)	
Butylamine (s-isomer)	
Butylamine (t-isomer)	
Butylbenzene (tert-)	
Butylbenzoic acid (p-tert-)	
Butylbenzyl phthalate	Y
Butylene glycol (1,3-isomer)	Y
Butylenes (n-)	
Butyraldehyde (n-)	
Butyric acid (n-)	
Butyric anhydride (n-)	
Butyrolactone	Y
Butyronitrile	
Calcium acetate	
Calcium propionate	
Caproic acid	
Caprolactam	Y
Carbaryl	Y
Carbazole	Y
Carbon disulfide	Y
Carbon tetrabromide	Y
Carbon tetrachloride	Y
Carbon tetrafluoride	Y
Chloral	Y
Chloranil	
Chloroacetic acid	Y
Chloroacetophenone (2-)	Y
Chloroaniline (m-isomer)	
Chloroaniline (o-isomer)	Y
Chloroaniline (p-isomer)	Y
Chlorobenzaldehyde	
Chlorobenzene	Y
Chlorobenzoic acid	
Chlorobenzotrichloride (o-)	
Chlorobenzotrichloride (p-)	
Chlorobenzoyl chloride (o-)	
Chlorobenzoyl chloride (p-)	
Chlorodifluoroethane	Y
Chlorodifluoromethane	Y
Chlorofluorocarbons	
Chloroform	Y
Chlorohydrin	
Chloronaphthalene (POM)	Y
Chloronitrobenzene (1,3-)	Y
Chloronitrobenzene (o-isomer)	Y
Chloronitrobenzene (p-isomer)	Y
Chlorophenols (all isomers)	Y
Chloroprene (2-Chloro-1,3-Butadiene)	Y
Chlorosulfonic acid	
Chlorotoluene (m-isomer)	Y

SL 063745

NAPCTAC Appendix A

17-Dec-90

Chemical Name	Affected Chemicals
Chlorotoluene (o-isomer)	Y
Chlorotoluene (p-isomer)	
Chlorotrifluoroethylene	
Chlorotrifluoromethane	Y
Choline chloride	
Chrysene (POM)	Y
Cinnamic acid	
Cobalt acetate	
Copper acetate	
Cresol (m-isomer)	Y
Cresols cresylic acid (mixed)	Y
Cresols (o-isomer)	Y
Cresols (p-isomer)	Y
Crotonaldehyde	Y
Crotonic acid	
Cumene hydroperoxide	Y
Cumene (isopropyl benzene)	Y
Cyanamide	
Cyanoacetic acid (CN compound)	
Cyanoformamide	
Cyanogen chloride (CN compound)	
Cyanuric acid	
Cyanuric chloride	
Cyclohexane	Y
Cyclohexanol	Y
Cyclohexanone	Y
Cyclohexene	
Cyclohexylamine	Y
Cyclooctadiene	Y
Cyclooctadiene (1,5-isomer)	Y
Decahydronaphthalate	Y
Diacetoxy-2-Butene (1,4-)	Y
Diallyl isophthalate	
Diallyl Phthalate	Y
Diaminobenzoic acids	
Diaminophenol Hydrochloride	Y
Dibromomethane	Y
Dibutoxyethyl phthalate	Y
Dichloroaniline (all isomers)	Y
Dichlorobenzene (1,4-isomer) (p- isomer)	Y
Dichlorobenzene (m-isomer)	Y
Dichlorobenzene (o-isomer)	Y
Dichlorobenzidine (3,3' -)	
Dichlorodifluoromethane	Y
Dichloroethane (1,2-isomer) (EDC)	Y
Dichloroethyl ether (bis(2-chloroethyl)ether)	Y
Dichloroethylene (1,2- isomer)	Y
Dichlorohydrin (a-)	
Dichloronitrobenzenes	
Dichloropentanes	
Dichlorophenol (2,4-isomer)	Y

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Chemical Name	Affected Chemicals
Dichloropropane (1,1-)	
Dichloropropene (1,3-isomer)	Y
Dichloropropene/dichloropropane (mixed)	
Dichlorotetrafluoroethane	Y
Dichloro-1-butene (3,4-isomer)	Y
Dichloro-2-butene (1,4-)	Y
Dicyanidiamide	
Dicyclohexylamine	
Dicyclopentadiene	
Diethanolamine	Y
Diethyl phthalate	Y
Diethyl sulfate	Y
Diethylamine	Y
Diethylaniline (2,6-isomer)	Y
Diethylaniline (N,N-)	
Diethylene glycol	Y
Diethylene glycol dibutyl ether	Y
Diethylene glycol diethyl ether (glycol ether)	Y
Diethylene glycol dimethyl ether (glycol ether)	Y
Diethylene glycol monobutyl ether acetate (glycol ether)	Y
Diethylene glycol monobutyl ether (glycol ether)	Y
Diethylene glycol monoethyl ether acetate (glycol ether)	Y
Diethylene glycol monoethyl ether (glycol ether)	Y
Diethylene glycol monohexyl ether (GE)	Y
Diethylene glycol monomethyl ether acetate (GE)	Y
Diethylene glycol monomethyl ether (glycol ether)	Y
Difluoroethane (1,1-)	
Diisobutylene	
Disodecyl phthalate	Y
Disooctyl phthalate	Y
Diisopropyl amine	
Diketene	
Dimethyl acetamide	
Dimethyl benzidine (3,3-isomer)	Y
Dimethyl ether - N,N	Y
Dimethyl formamide (NN-isomer) (DMF)	Y
Dimethyl hydrazine (1,1-isomer)	Y
Dimethyl Phthalate	Y
Dimethyl sulfate	Y
Dimethyl sulfide	
Dimethyl sulfoxide	
Dimethyl terephthalate	Y
Dimethylamine	Y
Dimethylaminoethanol (2-isomer)	Y
Dimethylaniline - N,N (N,N Diethylaniline)	Y
Dinitrobenzenes	Y
Dinitrobenzoic acid (3,5-)	
Dinitrophenol (2,4-isomer)	Y
Dinitrotoluene (2,3-)	
Dinitrotoluene (2,4-isomer) (DNT)	Y
Dinitrotoluene (2,6-)	

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Chemical Name	Affected Chemicals
Dinitrotoluene (3,4-)	
Dioxane (1,4-Diethyleneoxide)	Y
Dioxilane	Y
Diphenyl methane	Y
Diphenyl oxide (POM)	Y
Diphenyl thiourea (POM)	Y
Diphenylamine (POM)	Y
Dipropylene glycol	Y
Di(2-methoxyethyl) phthalate	Y
Di-o-tolylguanidine	Y
Dodecene (branched)	
Dodecene (n-)	
Dodecyl benzene (branched)	Y
Dodecyl mercaptan (branched)	
Dodecyl phenol (branched)	Y
Dodecylaniline	Y
Dodecylbenzene (n-isomer)	Y
Dodecylphenol	Y
Epichlorohydrin(1-Chloro-2,3-epoxypropane)	Y
Ethane	
Ethanol (Ethyl alcohol)	
Ethanolamines (all isomers)	Y
Ethyl acetate	Y
Ethyl acetoacetate	
Ethyl acrylate	Y
Ethyl benzene	Y
Ethyl bromide	
Ethyl caproate	
Ethyl chloride (Chloroethane)	Y
Ethyl chloroacetate	Y
Ethyl ether	
Ethyl hexanol (2-)	
Ethyl mercaptan (Ethanethiol)	
Ethyl orthoformate	
Ethyl oxalate	
Ethyl sodium oxalacetate	
Ethylamine	Y
Ethylaniline (N-isomer)	Y
Ethylaniline (o-isomer)	Y
Ethylcellulose	Y
Ethylcyanoacetate	
Ethylene	
Ethylene carbonate	Y
Ethylene chlorohydrin	
Ethylene dibromide (Dibromoethane) (EDB)	Y
Ethylene glycol	Y
Ethylene glycol diacetate	Y
Ethylene glycol dibutyl ether (GE)	Y
Ethylene Glycol Diethyl Ether	Y
Ethylene glycol dimethyl ether (glycol ether)	Y
Ethylene glycol monoacetate	Y

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Chemical Name	Affected Chemicals
Ethylene glycol monobutyl ether acetate (glycol ether)	Y
Ethylene glycol monobutyl ether (glycol ether)	Y
Ethylene glycol monoethyl ether acetate (glycol ether)	Y
Ethylene glycol monoethyl ether (glycol ether)	Y
Ethylene glycol monohexyl ether (GE)	Y
Ethylene glycol monomethyl ether acetate (glycol ether)	Y
Ethylene glycol monomethyl ether (glycol ether)	Y
Ethylene glycol monooctyl ether (GE)	Y
Ethylene glycol monophenyl ether (glycol ether)	Y
Ethylene glycol monopropyl ether (glycol ether)	Y
Ethylene imine (Aziridine)	
Ethylene oxide	Y
Ethylenediamine	Y
Ethylenediamine Tetraacetic acid	Y
Ethyleneimine (Aziridine)	
Ethyhexanoic acid	
Ethylhexyl acrylate (2-isomer)	Y
Ethylhexyl succinate (2-)	
Ethynaphthalene (2-isomer) (alkyl naphthalene)	Y
Fluoranthene (POM)	Y
Formaldehyde	Y
Formamide	Y
Formic acid	Y
Fumaric acid	Y
Glutaraldehyde	Y
Glyceraldehyde	Y
Glycerol	Y
Glycerol dichlorohydrin	Y
Glycidol	
Glycine	Y
Glycol ethers (other than those presented)	
Glyoxal	Y
Guanidine	
Guanidine nitrate	
Heptenes	
Hexachlorobenzene	Y
Hexachlorobutadiene	Y
Hexachlorocyclopentadiene	Y
Hexachloroethane	Y
Hexadecyl alcohol (Cetyl alcohol)	
Hexadiene (1,4-isomer)	Y
Hexamethylenediamine	
Hexamethylenetetramine	Y
Hexanetriol (1,2,6- isomer)	Y
Hexyl alcohol	
Hexylene glycol	
Higher glycols	
Hydrogen cyanide (CN compound)	
Hydroquinone	Y
Hydroxyadipaldehyde	Y
Hydroxybenzoic acid (p-)	

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Chemical Name	Affected Chemicals
Iminodiethanol (2,2-)	Y
Isoamyl alcohol	
Isoamyl chloride (mixed)	
Isoamylene	
Isobutane	
Isobutanol	
Isobutyl acetate	
Isobutyl acrylate	Y
Isobutyl methacrylate	
Isobutyl vinyl ether (Vinyl isobutyl ether)	
Isobutylene	Y
Isobutyraldehyde	
Isobutyric acid	
Isodecanol	
Isohexyldecyl alcohol	
Isiononyl alcohol	
Isooctyl alcohol	
Isopentane	
Isophorone	Y
Isophorone nitrile	Y
Isophthalic acid	Y
Isoprene	
Isopropanol	
Isopropyl acetate	
Isopropyl chloride	
Isopropyl ether	
Isopropylamine	
Isopropylphenol	Y
Ketene	
Lactic acid	
Lauryl dimethylamine oxide	
Lead acetate	
Lead phthalate	Y
Lead subacetate	
Linear alkylbenzene (linear dodecylbenzene)	Y
Magnesium acetate	
Maleic acid	
Maleic anhydride	Y
Maleic Hydrazide	Y
Malic acid	Y
Melamine	
Mercuric acetate	
Mesityl oxide	
Metanilic acid	Y
Methacrylic acid	
Methacrylonitrile	
Methallyl alcohol	
Methallyl chloride	
Methane	
Methanol	Y
Methionine	Y

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Chemical Name	Affected Chemicals
Methyl acetate	Y
Methyl acetoacetate	
Methyl acrylate	Y
Methyl bromide (Bromomethane)	Y
Methyl butenols	
Methyl butynol	
Methyl chloride (Chloromethane)	Y
Methyl ethyl ketone (2-Butanone)	Y
Methyl formate	Y
Methyl Hydrazine	Y
Methyl isobutyl carbinol	Y
Methyl isobutyl ketone (Hexone)	Y
Methyl isocyanate	Y
Methyl mercaptan	Y
Methyl methacrylate	Y
Methyl phenyl carbinol (methyl benzyl alcohol)	Y
Methyl salicylate	
Methyl Tert Butyl Ether	Y
Methylamine	Y
Methylaniline (n-isomer)	Y
Methylbutanol (2-)	
Methylcyclohexane	Y
Methylcyclohexanol	Y
Methylcyclohexanone	
Methylene chloride (Dichloromethane)	Y
Methylene dianiline (4,4-isomer) (MDA)	Y
Methylene diphenyl diisocyanate (MDI)	Y
Methylionones (a-isomer)	Y
Methylnaphthalene (1-isomer) (alkyl naphthalene)	Y
Methylnaphthalene (2-isomer) (alkyl naphthalene)	Y
Methylpentynol	Y
Methylstyrene (a-isomer)	Y
Methyl-1-pentene (2-)	
Morpholine	
Naphthalene	Y
Naphthalene sulfonic acid (a-isomer) (POM)	Y
Naphthalene sulfonic acid (b-isomer) (POM)	Y
Naphthenic acids	
Naphthol (a-isomer) (POM)	Y
Naphthol (b-isomer) (POM)	Y
Naphtholsulfonic acid (1-) (POM)	Y
Naphthylamine sulfonic acid (1,4-) (POM)	Y
Naphthylamine sulfonic acid (2,1-) (POM)	Y
Naphthylamine (1-) (POM)	Y
Naphthylamine (2-) (POM)	Y
Neohexane	
Neopentanoic acid (Trimethylacetic acid)	
Neopentyl glycol	
Nickel formate	
Nitroacetic Acid	
Nitroaniline (m-isomer)	Y

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Chemical Name	Affected Chemicals
Nitroaniline (o-isomer)	Y
Nitroaniline (p-isomer)	Y
Nitroanisole (o-isomer)	
Nitroanisole (p-isomer)	Y
Nitrobenzene	Y
Nitrobenzoic acid (m-)	
Nitrobenzoic acid (o-)	
Nitrobenzoic acid (p-)	
Nitrobenzoyl chloride (p-)	
Nitroethane	
Nitroguanidine	
Nitromethane	
Nitronaphthalene (1-) (POM)	Y
Nitrophenol (4-) (p-)	Y
Nitrophenol (o-isomer) (2-Nitrophenol)	Y
Nitropropane (1-)	
Nitropropane (2-)	Y
Nitrotoluene	Y
Nitrotoluene (2-isomer) (o-)	Y
Nitrotoluene (3-isomer) (m-)	Y
Nitrotoluene (4-isomer) (p-)	Y
Nitroxylenes	Y
Nonene (Nonylene)	
Nonylbenzene (branched)	Y
Nonylphenol	Y
Nonylphenol (branched)	
N-Vinyl-2-Pyrrolidone	Y
Octane	
Octene-1	Y
Octylamine (tert-)	
Octylphenol	Y
Oxalic acid	
Oxamide	
Oxo chemicals	
Paraformaldehyde	Y
Paraldehyde	Y
Pentachlorophenol	Y
Pentaerythritol	Y
Pentaerythritol tetranitrate	
Pentane	
Pentanethiol	
Pentanol (2-)	Y
Pentanol (3-)	
Pentene (1-)	
Pentene (2-)	
Peracetic acid	
Perchloroethylene (Tetrachloroethylene)	Y
Perchloromethyl mercaptan	Y
Phenacetin (Acetophenetidin)	
Phenanthrene (POM)	Y
Phenetidine (o-)	

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Chemical Name	Affected Chemicals
Phenetidine (p-isomer)	Y
Phenol	Y
Phenolphthalein	Y
Phenolsulfonic acids (all isomers)	Y
Phenylanthranilic acid	
Phenylenediamine (m-)	
Phenylenediamine (o-)	
Phenylenediamine (p-isomer)	Y
Phenylmethylpyrazolone (Methylphenylpyrazolinone)	
Phloroglucinol	Y
Phosgene	Y
Phthalic acid	Y
Phthalic anhydride	Y
Phthalimide	Y
Phthalonitrile	Y
Picoline (a-)	
Picoline (b-isomer)	Y
Picramic acid	
Picric acid	
Piperazine	Y
Piperylene	
Polyethylene glycol	Y
Polypropylene glycol	Y
Potassium acetate	
Propane	
Propiolactone (b isomer)	Y
Propionaldehyde	Y
Propionic acid	Y
Propyl acetate (n-)	
Propyl alcohol (n-)	
Propyl chloride	
Propylamine	
Propylene	
Propylene carbonate	Y
Propylene chlorohydrin	
Propylene dichloride (1,2-Dichloropropane)	Y
Propylene glycol	Y
Propylene glycol monomethyl ether	Y
Propylene oxide	Y
Pseudocumene	
Pseudocumidine	
Pyrene (POM)	Y
Pyridine	Y
Pyrrolidone (2-)	
p-tert-Butyl toluene	Y
Quinone	Y
Resorcinol	Y
Salicylic acid	Y
Sebacic acid	
Sodium acetate	
Sodium benzoate	

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Chemical Name	Affected Chemicals
Sodium chloroacetate	Y
Sodium cyanide	
Sodium dodecyl benzene sulfonate	
Sodium formate	Y
Sodium Methoxide	Y
Sodium oxalate	
Sodium phenate	Y
Sodium propionate	
Sorbic acid	
Stilbene	Y
Styrene (Vinyl Benzene)	Y
Succinic acid	Y
Succinonitrile	Y
Sulfanilic acid	Y
Sulfolane	Y
Synthesis gas	
Tartaric Acid	Y
Terephthalic acid	Y
Terephthaloyl chloride	
tert-Butylbenzene	
Tetrabromophthalic anhydride	Y
Tetrachlorobenzene (1,2,3,5-)	
Tetrachlorobenzene (1,2,4,5-isomer)	Y
Tetrachloroethane (1,1,2,2-isomer)	Y
Tetrachlorophthalic anhydride	Y
Tetraethyl lead	Y
Tetraethylene Glycol	Y
Tetraethylenepentamine	Y
Tetrafluoroethylene	
Tetrahydrofuran	
Tetrahydronaphthalene (Tetralin) (POM)	Y
Tetrahydrophthalic anhydride	Y
Tetramethylenediamine	Y
Tetramethylethylenediamine	Y
Thiocarbanilide	Y
Thiourea	Y
Toluene	
Toluene 2,4 diamine	Y
Toluene 2,4 diisocyanate	Y
Toluene diisocyanates (mixture)	Y
Toluene sulfonamides (o- and p-)	
Toluenesulfonic acids (all isomers)	Y
Toluenesulfonyl chloride	Y
Toluidine (o-isomer)	Y
Trichloroacetic acid	
Trichloroaniline (2,4,6-isomer)	Y
Trichlorobenzene (1,2,3-)	
Trichlorobenzene (1,2,4-isomer)	Y
Trichlorobenzene (1,3,5-)	
Trichloroethane (1,1,1-isomer) (methyl chloroform)	Y
Trichloroethane (1,1,2-isomer) (Vinyl Trichloride)	Y

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Chemical Name	Affected Chemicals
Trichloroethylene	Y
Trichlorofluoromethane	Y
Trichlorophenol (2,4,5-)	Y
Trichloropropane (1,2,3-)	Y
Trichlorotrifluoroethane (1,2,2 - 1,1,2 isomer)	Y
Tricresyl phosphate	
Tridecyl alcohol	
Triethanolamine	Y
Triethylamine	Y
Triethylene glycol	Y
Triethylene glycol dimethyl ether (glycol ether)	Y
Triethylene glycol monoethyl ether	Y
Triethylene Glycol Monomethyl Ether	Y
Trisobutylene	
Trimellitic anhydride	
Trimethyl pentanol	
Trimethylamine	Y
Trimethylcyclohexanol	Y
Trimethylcyclohexanone	Y
Trimethylcyclohexylamine	Y
Trimethylpropane	Y
Trimethylpentane (2,2,4-)	Y
Trimethyl-1,3-pentanediol (2,2,4-)	
Tripropylene glycol	Y
Urea	
Vinyl acetate	Y
Vinyl chloride (Chloro Ethylene)	Y
Vinyl toluene	Y
Vinylcyclohexene (4-isomer)	Y
Vinylidene chloride (1,1-Dichloroethylene)	Y
Vinylpyridine	
Xanthates (potassium ethyl xanthate)	Y
Xylene Sulfonic Acid	Y
xylene (m-isomer)	Y
Xylenes (mixtures)	Y
Xylenes (o-isomer)	Y
Xylenes (p-isomer)	Y
Xylenol	
Xylenol (2,3-)	
Xylenol (2,4-)	
Xylenol (2,5-)	
Xylenol (2,6-)	
Xylenol (3,4-)	
Xylenol (3,5-)	
Xyldine (2,3-)	
Xyldine (2,4-)	
Xyldine (2,5-)	
Xyldine (2,6-)	
Xyldine (3,4-)	
Xyldine (3,5-)	
Zinc acetate	

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Docket No. A-90-44
Subcategory II-I
References Not Readily Available to the Public Elsewhere

<u>Document No.</u>	<u>Description</u>
II-I-1	Inert Gas Generators Brochure. Industrial Gas Systems, Inc. Undated. Brochure of design and operating parameters of inert gas generators.
II-I-2	Inventory of Emissions From Marine Operations Within the California Coastal Waters. Scott Environmental Technology. June 1981. p. 3-38.
II-I-3	Perry's Chemical Engineers' Handbook, 6th ed. R. H. Perry et al., eds. 1984. p. 6-7.
II-I-4	Controlling Hydrocarbon Emissions From Tank Vessel Loading. Marine Board, National Research Council. 1987. pp. 1-22.
II-I-5	Scoping Quality Cost Estimate for Marine Vapor Control Systems. United Technical Design. April 1987. pp. 3-11, 21-77.
II-I-6	Clean Up Your Act With Fume Incineration Systems. R. J. Renko. Plastics Technology. July 1988. (Reprint)
II-I-7	Industrial News Series. Energy Information Agency, Division of U.S. Department of Energy. Monthly Energy Review. Publication No. DOE/EIA-0035 (88/10). October 1988. p. 103.
II-I-8	Economic Indicators. Chemical Engineering. June 1989. p. 224.
II-I-9	Controlling Emissions from Marine Loading Operations. J. Hill. Chemical Engineering. May 1990. pp. 133-143.

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Docket No. A-90-44
Subcategory II-A
EPA Studies or Contractor Reports

<u>Document No.</u>	<u>Description</u>
II-A-1	Compilation of Air Pollutant Emission Factors. Volume I: Stationary Point and Area Sources. EPA Publication No. AP-42. September 1985. pp. 4.3-7, 4.4-1 - 4.4-17.
II-A-2	OAQPS Control Cost Manual, 4th ed. W. Vataavuk et al. Publication No. EPA-450/3-90-006. January 1990. pp. 3.43 - 3.46.
II-A-3	Technical Support Document for the Development of a VOC Rule for Marine Vessel Loading Operations. Draft Report. MRI. Prepared for U. S. Environmental Protection Agency. September 28, 1990.

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Docket No. A-90-44
Subcategory II-C
EPA Correspondence to Persons Outside the Agency

<u>Document No.</u>	<u>Description</u>
II-C-1	J. Weigold, EPA:ESD, to Marine Vessel Loading Industry. December 14, 1990. Notice of Meeting (NAPCTAC). (List of addressees is attached to Notice Memorandum.)

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Docket No. A-90-44
Subcategory II-D
Correspondence Received From Persons Outside the Agency

<u>Document No.</u>	<u>Description</u>
II-D-1	P. Mentz, U.S. Department of Transportation, Maritime Administration, to S. Wyatt, EPA:ESD. November 14, 1990. Comments on September 1990 draft of Technical Support Document.
II-D-2	R. Hodges, John Zink Company, to S. Wyatt, EPA:ESD. November 29, 1990. Comments on September 1990 draft of Technical Support Document.
II-D-3	C. Hughs, Independent Liquid Terminals Association, to D. Markwordt, EPA:ESD. November 30, 1990. Comments on 1990 draft of Technical Support Document.
II-D-4	V. Leonard, American Petroleum Institute, to S. Wyatt, EPA:ESD. December 5, 1990. Comments on 1990 draft of Technical Support Document.
II-D-5	L. Verrelli, State of Alaska Department of Environmental Conservation, to S. Wyatt, EPA:ESD. December 7, 1990. Comments on 1990 draft of Technical Support Document.

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Docket No. A-90-44
Subcategory II-E
EPA Memoranda of Meetings With Outside Persons and of
Conversations With Outside Persons

<u>Document No.</u>	<u>Description</u>
II-E-1	D. Kapella, MRI, to R. Elsmann, Huntington Energy Systems, Inc. April 5, 1990. Telecon: Discussion of regenerative incinerator.
II-E-2	D. Kapella, MRI, to G. Yundt, Regenerative Environmental Equipment Company, Inc. May 1, 1990. Telecon: Discussion of regenerative incinerator operations.

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Source Category List
Docket No. A-90-49
Subcategory II-A
EPA Studies or Contractor Reports

<u>Document No.</u>	<u>Description</u>
II-A-1	Final Guideline Document: Control Of Fluoride Emissions From Existing Phosphate Fertilizer Plants, OAQPS:ESED, EPA-450/2-77-005, OAQPS No. 1.2-070, pp. 5-1 thru 5-3, March 1977.
II-A-2	Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products OAQPS:ESED:CPB, EPA-450/2-78-029, OAQPS No. 1.2-105, Table A-1, December 1978.
II-A-3	Emission, Process and Control Technology Study of the ABS/SAN, Acrylic Fiber, and NBR Industries, prepared by C. N. Click and D. O. Moore, Pullman Kellogg Company for OAQPS:ESED, EPA Contract No. 68-02-2619, pp. 1, 2, 3 and 74, April 20, 1979.
II-A-4	Ammonium Sulfate Manufacture - Background Information for Proposed Emission Standards, Draft EIS, EPA-450/3-79-034a, December 1979, pp. 3-6 thru 3-13.
II-A-5	Source Assessment: Residential Combustion of Wood, prepared by D. G. DeAngelis, et al., Monsanto Research Corporation for OEET:IERL, EPA-600/2-80-042b, March 1980, p. 28.
II-A-6	Collection, Analysis and Characterization of Vermiculite Samples For Fiber Contact and Asbestos Contamination, Final Report, prepared by R. D. Atkinson, et al., Midwest Research Institute for OPTS:FSB, EPA Contract No. 68-01-5915, September 27, 1982, pp. 1 - 19.
II-A-7	Synthetic Fiber Production Facilities - Background Information for Proposed Standards, Draft EIS, OAQPS:Office of Air, Noise & Radiation, EPA-450/3-82-011a, pp. 3-1 and 3-17, October 1982.
II-A-8	Industrial Organic Chemical Use Trees, Final Report, prepared by Radian Corporation and Paul W. Spaite Company for ORD:IERL, EPA Contract No. 68-03-3038-SBR09, October 1983.
II-A-9	Wool Fiberglass Insulation Manufacturing Industry - Background Information for Proposed Standards, EPA-450/3-83-022a, December 1983.

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Source Category List
Docket No. A-90-49
Subcategory II-A
EPA Studies or Contractor Reports

<u>Document No.</u>	<u>Description</u>
II-A-10	Locating and Estimating Air Emissions From Sources of Nickel, prepared by Radian Corp. for OAQPS, EPA-450/4-84-007f, pp. 59, 61 thru 63, 70, 71, 85, 88 thru 90, 92, 93, 98, 99, 100, 102, and 122 thru 124, March 1984.
II-A-11	Locating And Estimating Air Emissions From Sources of Carbon Tetrachloride, EPA-450/4-84-007b, March 1984, p. 32.
II-A-12	Locating and Estimating Air Emissions From Sources of Chromium, OAQPS, EPA-450/4-84-007g, July 1984.
II-A-13	Source Assessment of Ethylene Dichloride Emissions, Final Report, prepared by R. D. Atkinson, et al., Midwest Research Institute for OAQPS:ESED, EPA Contract No. 68-02-3817, pp. 2-1, 4-1 and 6-1, September 1984.
II-A-14	Survey of Ethylene Dichloride Emission Sources, OAQPS:ESED, EPA-450/3-84-018, p. 6-3, December 1984.
II-A-15	Survey of Methylene Chloride Emission Sources, prepared by R. F. Pandullo, et al., Radian Corporation for OAQPS, EPA-450/3-85-015, pp. 3-1, 3-13, 3-19, 3-22, 5-1, 6-1, 7-1, 7-2 and 10-3, June 1985.
II-A-16	Survey of Carbon Tetrachloride Emission Sources, prepared by R. H. Howle, et al., Radian Corporation for OAQPS:ESED, EPA-450/3-85-018, pp. 6-1, 7-1, 8-1, 8-4, 8-5, 9-1, 10-1 and 11-1, July 1985.
II-A-17	Locating and Estimating Air Emissions From Sources of Phosgene, OAQPS, EPA-450/4-84-007i, pp. 30 and 33, September 1985.
II-A-18	Locating and Estimating Air Emissions From Sources of Manganese, OAQPS, EPA-450/4-85-007h, pp. 4-21, 4-22, 4-24, 4-58, 4-59, 5-20, 5-21 and 5-22, September 1985.
II-A-19	Locating and Estimating Air Emissions From Sources of Vinylidene Chloride, OAQPS, EPA-450/4-85-007k, pp. 33, 35, 38 thru 41, 44, 45, and 47 thru 50, September 1985.
II-A-20	Survey of Chloroform Emission Sources, prepared by R. Rehm and M. Smith, GCA Corporation for OAQPS:ESED, EPA-450/3-85-026, pp. 3-14 thru 3-19, 7-1, 8-1, 10-1 and 13-1, October 1985.

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Source Category List
Docket No. A-90-49
Subcategory II-A
EPA Studies or Contractor Reports

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<u>Document No.</u>	<u>Description</u>
II-A-21	Calciners and Dryers in Mineral Industries - Background Information for Proposed Standards, OAQPS:ESED, EPA-450/3-85-025a, pp. C-77, C-86, C-97, C-98, C-183, C-196, C-212 and C-221, October 1985.
II-A-22	Coke Oven Emissions from Wet-Coal Charged By-product Coke Oven Batteries - Background Information for Proposed Standards, Draft EIS, OAQPS:ESED, EPA-450/3-85-028a, December 1985.
II-A-23	Locating and Estimating Air Emissions From Sources of Chlorobenzenes, prepared by GCA Technology for OAQPS, EPA-450/3-84-007m, pp. 72, 73, 47, 116 and 117, September 1986.
II-A-24	Locating And Estimating Air Emissions From Sources Of Ethylene Oxide, prepared by Radian Corp. for OAQPS, EPA-450/4-84-0071, pp. 35, 36, 37, 40, 41, and 49 thru 58, September 1986.
II-A-25	Summary of Emissions Associated with Sources of Naphthalene, OAQPS:ESD, EPA-450/3-88-003, pp. 2-13, 2-16 and 2-19, October 30, 1986.
II-A-26	Cadmium Screening Study Test Report Cadmium Refining Industry Amax Zinc Company, Inc. East St. Louis, Illinois, OAQPS:EMB, EMB Report No. 86-CAD-1, pp. 1 thru 14, November 1986.
II-A-27	Preliminary Source Assessment: Phosphorus and Phosphorus Compounds, Undated Draft, by Midwest Research Institute for OAQPS:ISB, 1987.
II-A-28	Source Assessment of Acetaldehyde Emissions, Final Report, prepared by Midwest Research Institute for OAQPS:CPB, EPA Contract No. 68-02-3817, pp. 1-1 and 3-1, February 1987.
II-A-29	Source Assessment of Acrolein Emissions, Final Report, prepared by Midwest Research Institute for OAQPS:CPB, EPA Contract No. 68-02-3817, p. 2-6, February 1987.
II-A-30	Coke Oven Emissions from Wet-Coal Charged By-Product Coke Oven Batteries - Background Information for Proposed Standards, Draft EIS, EPA-450/3-85-028a, pp. 3-16 thru 3-19, April 1987.

Source Category List
Docket No. A-90-49
Subcategory II-A
EPA Studies or Contractor Reports

JAN -3 88

<u>Document No.</u>	<u>Description</u>
II-A-31	Cadmium Emissions from Cadmium Refining and Primary Zinc/Zinc Oxide Smelting - Phase I Technical Report, OAQPS:ESD, EPA-450/3-87-011, pp. 1 - 30, June 1987.
II-A-32	Locating and Estimating Air Emissions From Sources Of Polycyclic Organic Matter (POM), EPA-450/4-84-007p, pp. 116, 119, 120, 247, 248, 249, 272, 276, 287, 279, 280, 282, 283, 291, 292, 304, and 306 thru 311, September 1987.
II-A-33	Summary of Emissions Associated With Sources of Ethyl Chloride, OAQPS:ESD, EPA-450/3-88-005, pp. 3-6, 3-11, 3-16 and 6-3, June 1988.
II-A-34	Cadmium Emissions from Primary Lead and Primary Copper Smelting -- Phase I Technical Report, EPA-450/3-88-006, June 1988, pp. 1-31.
II-A-35	Summary of Emissions Associated With Propylene Oxide, OAQPS:ESD, EPA-450/3-88-014, p. 3-6, November 1988.
II-A-36	Hospital Waste Combustion Study: Data Gathering Phase, Final, OAQPS:ESD, EPA-450/3-88-017, December 1988.
II-A-37	Alternative Control Technology Document - Ethylene Oxide Sterilization/Fumigation Operations, prepared by Midwest Research Institute for OAQPS:ESD, EPA-450/3-89-007, pp. 3-19 thru 3-23, March 1989.
II-A-38	Estimating Air Toxics Emissions From Coal And Oil Combustion Sources, by Radian Corporation for OAQPS, EPA-450/2-89-001, April 1989.
II-A-39	Locating and Estimating Air Emission From Sources of Perchloroethylene and Trichloroethylene, prepared by Radian Corp. for OAQPS, EPA-450/2-89-013, pp. 77 thru 84, and 90, August 1989.
II-A-40	Locating and Estimating Air Emissions From Sources Of Chromium (Supplement), prepared by Midwest Research Institute for OAQPS, EPA-450/2-89-002, August 1989.
II-A-41	Risk Assessments Methodology Environmental Impact Statement NESHAPS for Radionuclides Background Information Document - Volume 1, ORP, EPA/520/1-89-005, September 1989.

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Source Category List
Docket No. A-90-49
Subcategory II-A
EPA Studies or Contractor Reports

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<u>Document No.</u>	<u>Description</u>
II-A-42	Risk Assessments Methodology Environmental Impact Statement NESHAPS for Radionuclides Background Information Document - Volume 2, ORP, EPA/520/1-89-006-1, September 1989.
II-A-43	Risk Assessments Methodology Environmental Impact Statement NESHAPS for Radionuclides Background Information Document - Volume 2 Appendixes, ORP, EPA/520/1-89-006-2, September 1989.
II-A-44	Guideline Series Guidance Document for Residential Wood Combustion Emission Control Measures, OAQPS, EPA-450/2-89-01, pp 1-12 and 1-14, September 1989.
II-A-45	Air Emissions Species Manual, Volume I, Volatile Organic Compound (VOC) Species Profiles, Second Edition, prepared by Radian Corporation for OAQPS, EPA-450/0-00-000a, pp. 1 thru 11, October 1989.
II-A-46	Air Emissions Species Manual, Volume II, Particulate Matter Species Profiles, Second Edition, prepared by Radian Corporation for OAQPS, EPA-450/0-00-000, pp. 1 thru 20, October 1989.
II-A-47	Characterization Of Emissions From The Simulated Open Burning Of Scrap Tires, prepared by Acurex Corp. for Control Technology Center:AEERL, EPA-600/2-89-054, pp. 1, 2, 3, 28, 29, 40 thru 43, and 52, October 1989.
II-A-48	Lead-Acid Battery Manufacture - Background Information for Proposed Standards, Draft EIS, EPA-450/3-79-028a, November 1989.
II-A-49	Assessment of VOC Emissions From Yeast Manufacturing Facilities Phase I, Draft, prepared by Midwest Research Institute for Control Technology Center:ESD, EPA Contract No. 68-02-4379, June 29, 1990.
II-A-50	National Emission Standards for Asbestos, Background Information for Proposed Asbestos NESHAP Revisions, Draft, OAQPS:ESD, October 1990.

Source Category List
Docket No. A-90-49
Subcategory II-B
EPA Factual Memoranda

JAN - 3 '89

<u>Document No.</u>	<u>Description</u>
II-B-1	K. Q. Kuhn and R. C. Burt, Radian Corporation, to Butadiene Source Category Concurrence File, December 12, 1986, Estimates of 1,3-Butadiene Emissions from Miscellaneous Sources and Emissions Reductions Achievable with Candidate NESHAP Controls.
II-B-2	W. H. Maxwell, OAQPS:ESD:ISB, to B. L. Riddle, OAQPS:PAB:PATS, April 5, 1988, HEM Input Information for Erionite Fiber: Nonasbestos Asbestiform Fibers PSA.
II-B-3	W. H. Maxwell, OAQPS:ESD:ISB, to B. L. Riddle, OAQPS:PAB:PATS, April 6, 1988, HEM Input Information for Kevlar Fiber: Nonasbestos Asbestiform Fibers PSA.
II-B-4	W. H. Maxwell, OAQPS:ISB:SDS, to B. L. Riddle, OAQPS:PAB:PATS, April 13, 1988, HEM Input Information for Rock Wool Fiber: Nonasbestos Asbestiform Fibers PSA.
II-B-5	W. H. Maxwell, OAQPS:ISB:SDS, to B. L. Riddle, OAQPS:PAB:PATS, June 14, 1988, Additional HEM Input Information for Rock Wool Fiber: Nonasbestos Asbestiform Fibers PSA.
II-B-6	R. B. Lucas, OAQPS:ESD:CPB, to J. Padgett, OAQPS, July 20, 1988, New Study on the Air Toxics Problem in the United States - POTW Emissions.
II-B-7	W. H. Maxwell, OAQPS:ESD:ISB, to B. L. Riddle, OAQPS:PAB:PATS, December 20, 1988, HEM Input Information for Rock and Slag Wool Fibers Nonasbestos Asbestiform Fibers PSA.
II-B-8	W. H. Maxwell, OAQPS:ESD:ISB, to B. L. Riddle, OAQPS:PAB:PATS, December 28, 1988, Stack Parameters for HEM Input for Rock and Slag Wool Fibers; Nonasbestos Asbestiform Fibers PSA.
II-B-9	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-84-26.
II-B-10	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-85-11.

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<u>Document No.</u>	<u>Description</u>
II-B-11	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-85-12.
II-B-12	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-85-14.
II-B-13	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-87-10.
II-B-14	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, October 1, 1990, Incorporation by Reference of Docket No. A-79-32.
II-B-15	B. King, Radian Corporation, to L. Evans, OAQPS:ESD:CPB, October 31, 1990, Task 11: Characterization of Chemical Production Categories Not Found in Literature Search and Identification of Affected and Unaffected Product-Processes.
II-B-16	C. Stoneman and T. Pace, OAQPS:AQMD:PMPS, to J. Vandenberg, OAQPS:ESD:PAB, November 2, 1990, Title III Applicability to Residential Wood Combustion and Prescribed Burning.
II-B-17	D. Pickett, Radian Corporation, to Source Category Ranking System Docket, November 13, 1990, Incorporation by Reference of Docket No. A-79-11.

Source Category List
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Subcategory II-D
Correspondence Received from Persons Outside the Agency
and from EPA Regional Offices

Document No.

Description

II-D-1

T. Scopelliti, Enviro-Scope Consulting Corporation, to R. Rosensteel, OAQPS:CPB, August 29, 1990, Suggestion to investigate metal shredding (recycling) operations.

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Source Category List
Docket No. A-90-49
Subcategory II-I
References

JAN - 3 1981

<u>Document No.</u>	<u>Description</u>
II-I-1	Toxic Chemical Release Inventory System (TRIS), developed by SYCOM Inc. for EPA:OTS:Information Management Division:Public Data Branch, no date.
II-I-2	Destructive Distillation of Scrap Tires ... Report of Investigations 7302, D. E. Wolfson, et al., U. S. Department of the Interior and Bureau of Mines, no date.
II-I-3	Chemical Products Synopsis of Chlorobenzene, Mannsville Chemical Products, July 1977.
II-I-4	Pyrolysis of Scrap Tires Using the Tosco II Process - A Progress Report, B. L. Schelman, P. A. White, Tosco Corp., The American Chemical Society, March 3, 1978.
II-I-5	Occupational Exposure to Talcs Containing Asbestiform Minerals; J. M. Dement and R. D. Zumwalde, Proceedings from the Conference on Occupational Exposure to Fibrous and Particulate Dust and Their Extension into the Environment, 1979.
II-I-6	Chemical Products Synopsis of Phosphorus, Mannsville Chemical Products, January 1981.
II-I-7	Chemical Products Synopsis of Dichlorobenzene, Mannsville Chemical Products, March 1983.
II-I-8	Chemical Products Synopsis of Formaldehyde, Mannsville Chemical Products, June 1983.
II-I-9	Chemical Products Synopsis of Hydrogen Cyanide, Mannsville Chemical Products, November 1983.
II-I-10	Chemical Products Synopsis of Glycol Ethers, Mannsville Chemical Products, December 1983.
II-I-11	Chemical Products Synopsis of Caprolactum, Mannsville Chemical Products, February 1984.
II-I-12	Chemical Products Synopsis of Nitrobenzene, Mannsville Chemical Products, February 1984.
II-I-13	Chemical Products Synopsis of Chloroacetic Acid, Mannsville Chemical Products, May 1984.

Source Category List
Docket No. A-90-49
Subcategory II-I
References

JAN 13 1981

<u>Document No.</u>	<u>Description</u>
II-I-14	Chemical Products Synopsis of Ethyl Chloride, Mannsville Chemical Products, May 1984.
II-I-15	Chemical Products Synopsis of Methyl Chloride, Mannsville Chemical Products, May 1984.
II-I-16	Chemical Products Synopsis of Propylene Dichloride, Mannsville Chemical Products, May 1984.
II-I-17	Chemical Products Synopsis of Methyl Bromide, Mannsville Chemical Products, July 1984.
II-I-18	Chemical Products Synopsis of Benzyl Chloride, Mannsville Chemical Products, August 1984.
II-I-19	Chemical Products Synopsis of Hydrazine, Mannsville Chemical Products, August 1984.
II-I-20	Chemical Products Synopsis of Hydroquinone, Mannsville Chemical Products, August 1984.
II-I-21	Chemical Products Synopsis of Naphthalene, Mannsville Chemical Products, August 1984.
II-I-22	Chemical Products Synopsis of Epichlorohydrine, Mannsville Chemical Products, October 1984.
II-I-23	Chemical Products Synopsis of Hydrofluoric Acid, Mannsville Chemical Products, January 1985.
II-I-24	Chemical Products Synopsis of Acetaldehyde, Mannsville Chemical Products, February 1985.
II-I-25	Chemical Products Synopsis of Acrylonitrile, Mannsville Chemical Products, February 1985.
II-I-26	Chemical Products Synopsis of Ethylene Oxide, Mannsville Chemical Products, March 1985.
II-I-27	Chemical Products Synopsis of Benzene, Mannsville Chemical Products, April 1985.
II-I-28	Chemical Products Synopsis of Carbon Disulfide, Mannsville Chemical Products, April 1985.

Source Category List
Docket No. A-90-49
Subcategory II-I
References

JAN - 3 1986

<u>Document No.</u>	<u>Description</u>
II-I-29	Chemical Products Synopsis of Hydrochloric Acid, Mannsville Chemical Products, April 1985.
II-I-30	Chemical Products Synopsis of Toluene Diisocyanate, Mannsville Chemical Products, April 1985.
II-I-31	Chemical Products Synopsis of Chlorine, Mannsville Chemical Products, May 1985.
II-I-32	Chemical Products Synopsis of Parathions, Mannsville Chemical Products, July 1985.
II-I-33	Chemical Products Synopsis of Phthalic Anhydride, Mannsville Chemical Products, July 1985.
II-I-34	Chemical Products Synopsis of Maleic Anhydride, Mannsville Chemical Products, August 1985.
II-I-35	Chemical Products Synopsis of Toluene, Mannsville Chemical Products, August 1985.
II-I-36	Chemical Products Synopsis of Vinyl Acetate, Mannsville Chemical Products, August 1985.
II-I-37	Chemical Products Synopsis of Phenol, Mannsville Chemical Products, October 1985.
II-I-38	Chemical Products Synopsis of Phosgene, Mannsville Chemical Products, October 1985.
II-I-39	Chemical Products Synopsis of Cresols and Cresylic Acid, Mannsville Chemical Products, November 1985.
II-I-40	Chemical Products Synopsis of Vinyl Chloride, Mannsville Chemical Products, November 1985.
II-I-41	Chemical Products Synopsis of Methanol, Mannsville Chemical Products, December 1985.
II-I-42	F. Johnson, North Carolina Division of Environmental Management: Air Quality Action, to L. P. Benton, North Carolina Division of Environmental Management, March 11, 1986, Updated List of Products of Combustion Emitted from Rubber Tires.

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Source Category List
Docket No. A-90-49
Subcategory II-I
References

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<u>Document No.</u>	<u>Description</u>
II-I-43	1987 Directory of Chemical Producers, United States of America, SRI International, pp. 459, 460, 461, 698, 699, 700, 705 and 706, 1987.
II-I-44	Chemical Products Synopsis of Ethylbenzene, Mannsville Chemical Products, January 1987.
II-I-45	Chemical Products Synopsis of Methyl Methacrylate, Mannsville Chemical Products, January 1987.
II-I-46	Chemical Products Synopsis of Pentachlorophenol, Mannsville Chemical Products, January 1987.
II-I-47	Chemical Products Synopsis of Styrene, Mannsville Chemical Products, January 1987.
II-I-48	Chemical Profile Propylene Oxide, Chemical Marketing Reporter, Schnell Publishing Company Inc., February 2, 1987.
II-I-49	Chemical Products Synopsis of Carbon Tetrachloride, Mannsville Chemical Products, April 1987.
II-I-50	Chemical Products Synopsis of Ethylene Glycol, Mannsville Chemical Products, May 1987.
II-I-51	Chemical Products Synopsis of Methylene Chloride, Mannsville Chemical Products, May 1987.
II-I-52	Chemical Products Synopsis of Trichloroethylene, Mannsville Chemical Products, May 1987.
II-I-53	Chemical Products Synopsis of 1,1,1-Trichloroethane, Mannsville Chemical Products, June 1987.
II-I-54	Total Mass Emissions From A Hazardous Waste Incinerator, Final Report, prepared by Midwest Research Institute for Acurex Corporation, June 12, 1987.
II-I-55	Preliminary Source Assessment of Styrene Emissions, Third Draft, A. M. Smith, EPA:OAQPS, July 7, 1987.
II-I-56	1988 Directory of Chemical Producers, United States of America, SRI International, pp. 524, 525, 825, 834 and 850, 1988.

Source Category List
Docket No. A-90-49
Subcategory II-I
References

<u>Document No.</u>	<u>Description</u>
II-I-57	Chemical Products Synopsis of Acrylamide, Mannsville Chemical Products, January 1988.
II-I-58	Chemical Products Synopsis of Cumene, Mannsville Chemical Products, January 1988.
II-I-59	Chemical Products Synopsis of Methyl Ethyl Ketone, Mannsville Chemical Products, February 1988.
II-I-60	Chemical Products Synopsis of Butadiene, Mannsville Chemical Products, March 1988.
II-I-61	Chemical Products Synopsis of Methyl Isobutyl Ketone, Mannsville Chemical Products, May 1988.
II-I-62	Chemical Products Synopsis of Aniline, Mannsville Chemical Products, July 1988.
II-I-63	Chemical Products Synopsis of Perchloroethylene, Mannsville Chemical Products, February 1989.
II-I-64	Report 22 Permitting Information, National Air Toxics Information Clearinghouse (NATICH) Database, EPA:PAB, September 27, 1990.

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Source Category List
Docket No. A-90-49
Subcategory II-J
Miscellaneous Federal Register Notices Published :
During Proposal Development

<u>Document No.</u>	<u>Description</u>
II-J-1	Vol. 48, No. 202, October 18, 1983, Standards of Performance for New Stationary Sources; Synthetic Organic Chemical Manufacturing Industry; Equipment Leaks of VOC, Reference Methods 18 and 22; Final rule.
II-J-2	Vol 50, No. 111, June 10, 1985, Pilot Program on Acrylonitrile; Announcement of pilot program.
II-J-3	Vol. 50, No. 188, September 27, 1985, Intent to List Chloroform as a Hazardous Air Pollutant; Intent to List Chloroform Under section 112 of the Clean Air Act and Solicitation of information.
II-J-4	Vol. 50, No. 188, September 27, 1985, Assessment of Chloroprene as a Potentially Toxic Air Pollutant; Notice of intent not to regulate and solicitation of information.
II-J-5	Vol. 50, No. 190, October 1, 1985, Assessment of Hexachlorocyclopentadiene as a Potentially Toxic Air Pollutant; Notice of Intent Not to Regulate and Solicitation of Information.
II-J-6	Vol. 50, No. 197, October 10, 1985, Assessment of 1,3-Butadiene as a Potentially Toxic Air Pollutant; Notice of Intent to List Under section 112 of the Clean Air Act and Solicitation of Information.
II-J-7	Vol. 53, No. 54, March 21, 1988, Assessment of Naphthalene As a Potentially Toxic Air Pollutant; Notice of naphthalene assessment results and solicitation of information.
II-J-8	Vol. 54, No. 240, December 15, 1989, National Emission Standards for Hazardous Air Pollutants; Radionuclides; Final rule and notice of reconsideration.

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