

ILLINOIS POLLUTION CONTROL BOARD
September 8, 1988

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO PART) R88-23
211 AND 215, LEAKS FROM)
SYNTHETIC ORGANIC CHEMICAL)
AND POLYMER MANUFACTURING)
EQUIPMENT)

PROPOSED RULE. FIRST NOTICE.

ORDER OF THE BOARD (by J. D. Dumelle):

This matter comes before the Board upon an August 24, 1988, Joint Proposal filed simultaneously with a Joint Motion by the Illinois Environmental Protection Agency (Agency), Amoco Chemical Company (Amoco), the Dow Chemical Company (Dow), Mobil Chemical Company, Inc. (Mobil), and Stepan Company (Stepan), all of whom will be generally referred to as "Joint Proponents" or "Joint Movants". The joint motion requests the Board to conduct an expedited rulemaking on the joint proposal.

The Board is amenable to expediting the rulemaking process as much as possible consistent with the Administrative Procedure Act; however, the Board notes that a rulemaking proceeding can be expedited only inasmuch as the proponents and participants demonstrate a willingness to cooperate. For its part, the Board today sends the proposal to First Notice. However, due to the expedited nature of this proceeding, the Board takes no position at this time on the substance of the proposed text.

The Hearing Officer is directed to schedule hearings as soon as practicable.

ORDER

The Board hereby proposes the following amendments to 35 Ill. Adm. Code 211 and 215 for First Notice publication. The Clerk is directed to submit these proposed amendments to the Secretary of State's Office for publication in the Illinois Register.

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

SUBCHAPTER C: EMISSION STANDARDS AND LIMITATIONS FOR STATIONARY
SOURCES

PART 211
DEFINITIONS AND GENERAL PROVISIONS

SUBPART B: DEFINITIONS

Section 211.122 Definitions

"Closed Purge System": A system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport liquid or vapor from a piece or pieces of equipment to a control device, or return the liquid or vapor to the process line.

"Closed Vent System": A system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device, or return the gas or vapor to the process line.

"Component": Any piece of equipment which has the potential to leak volatile organic material including, but not limited to, pump seals, compressor seals, seal oil degassing vents, pipeline valves, pressure relief devices, process drains and open ended ~~pipes~~ valves. This definition excludes valves which are not externally regulated, flanges, and equipment in heavy liquid service. For purposes of Subpart Q (35 Ill. Adm. Code 215), this definition also excludes bleed ports of gear pumps in polymer service.

"Control Device": For purposes of Subpart Q, an enclosed combustion device, vapor recovery system, flare, or closed container.

"In-situ Sampling Systems": nonextractive samplers or in-line samplers.

"Light Liquid": Volatile organic material in the liquid state which is not defined as a heavy liquid.

"Liquids Dripping": Any visible leaking from a seal including spraying, misting, clouding and ice formation.

"Pressure Release": The emission of materials resulting from system pressure being greater than set pressure of the pressure

relief device.

"Process Unit": Components assembled to produce, as intermediate or final products, one or more of the chemicals listed in Appendix D. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

"Process Unit Shutdown": A work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare components and technically feasible bypassing of components without stopping production are not process unit shutdowns.

"Purged Process Fluid": liquid or vapor from a process unit that contains volatile organic material and that results from flushing or cleaning the sample line(s) of a process unit so that a uncontaminated sample may then be taken for testing or analysis.

"Sensor": A device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

"Synthetic Organic Chemical or Polymer Manufacturing Plant": A plant that produces, as intermediates or final products, one or more of the chemicals or polymers listed in Appendix D.

"Zero Volatile Organic Material Emissions": A discharge of volatile organic material into the atmosphere as indicated by an instrument reading of less than 500 ppm above background as determined in accordance with 40 CFR Section 60.485(c).

(Source: Amended at _____ Ill. Reg. _____, effective _____).

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE B: AIR POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER C: EMISSIONS STANDARDS AND LIMITATIONS FOR
STATIONARY SOURCES

PART 215
ORGANIC MATERIAL EMISSION STANDARDS AND LIMITATIONS

SUBPART A: GENERAL PROVISIONS

Section 215.104 Definitions

The definitions of 35 Ill. Adm. Code 201 and 211 apply to this Part, as well as the definition contained in this Section. Where the definition contained in this Section is more specific than that found in Parts 201 or 211, it shall take precedence in application of this Part.

~~"Light liquid": Volatile organic material in the liquid state which is not defined as heavy liquid.~~

(Source: Amended at _____ Ill. Reg. _____,
effective _____).

Section 215.105 Incorporation by Reference

The following materials are incorporated by reference:

- a) American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103:
- 1) ASTM D 1644-59 Method A
 - 2) ASTM D 1475-60
 - 3) ASTM D 2369-73
 - 4) ASTM D 2879-83 (Approved 1983)
 - 5) ASTM D 323-82 (Approved 1982)
 - 6) ASTM D 86-82 (Approved 1982)
 - 7) ASTM E 260-73 (Approved 1973), E 168-67 (Reapproved 1977), E 169-63 (Reapproved 1981), E 20 (Approved 1985)
 - 8) ASTM D 97-66
 - 9) ASTM D 1946-67

- 10) ASTM D 2382-76
- 11) ASTM D 2504-83
- 12) ASTM D 2382-83
- b) Federal Standard 141a, Method 4082.1
- c) National Fire Codes, National Fire Prevention Association, Battery March Park, Quincy, Massachusetts 02269 (1979)
- d) United States Environmental Protection Agency, Washington, D.C., EPA-450/2-77-026, Appendix A (October 1977).
- e) United States Environmental Protection Agency, Washington, D.C., EPA-450/2-78-051 Appendix A and Appendix B (December 1978).
- f) Standard Industrial Classification Manual, published by Executive Office of the President, Office of Management and Budget, Washington, D.C., 1972
- g) 40 CFR 60, Appendix A, 1986
- h) United States Environmental Protection Agency, Washington D.C.; EPA-450/2-78-041.

(Board Note: The incorporations by reference listed above contain no later amendments or editions.)

(Source: Amended at _____ Ill. Reg. _____, effective _____).

SUBPART Q: LEAKS FROM SYNTHETIC ORGANIC CHEMICAL AND POLYMER MANUFACTURING EQUIPMENT

Section 215.420 Applicability

The provisions of Sections 215.421 through 215.429 of this subpart shall apply to all plants in the State of Illinois which manufacture synthetic organic chemicals and polymers, except those located in any of the following counties: Will, McHenry, Cook, DuPage, Lake, Kane, Madison, St. Clair, Macoupin, and Monroe. The provisions of Section 215.430 through ~~215.438~~ 215.329 shall apply to the counties specifically enumerated above.

In addition, if any county is redesignated as non-attainment by the USEPA subsequent to December 31, 1987, the owner or operator

of a plant located in that county shall comply with the requirements of Sections 215.430 through ~~215.438~~ 215.439 upon the effective date of the redesignation.

(Source: Amended at _____ Ill. Reg. _____, effective _____)

Section 215.430 General Requirements

The owner or operator of a plant which processes more than 3660 Mg/yr (4033 tons/year) gaseous ~~or~~ and light liquid volatile organic material, and whose components are used to manufacture the synthetic organic chemicals or polymers listed in Appendix D, shall ~~conduct leak inspection and repair programs for that equipment in accordance with this Subpart~~ comply with Sections 215.430 to 215.439. ~~Leak inspection and repair programs shall be conducted for that equipment~~ The provisions of Sections 215.430 to 215.439 are applicable to components containing 10 percent or more by weight volatile organic material as determined by ASTM method E-168, E-169 and E-260, incorporated by reference in Section 215.105. Those components that are not process unit components are exempt from Sections 215.430 to 215.439. A component shall be considered to be leaking if the volatile organic material is equal to, or is greater than 10,000 ppmv as methane or hexane as determined by USEPA Reference Method 21, as specified at 40 CFR 60, Appendix A, incorporated by reference in Section 215.105, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed. The provisions of this Subpart are not applicable if the equipment components are used to produce heavy liquid chemicals only from heavy liquid feed or raw materials.

(Source: Amended at _____ Ill. Reg. _____, effective _____).

Section 215.432 Inspection Program for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.430 through ~~215.438~~, 215.439, shall for the purposes of detecting leaks, conduct a component inspection program utilizing the test methods specified in Reference Method 21, 40 CFR 60, Appendix A (1986), incorporated by reference in Section 215.105, consistent with the following provisions:

- a) Test annually those components operated near extreme temperature or pressure such that they would be unsafe to routinely monitor, and those components located more than two meters above permanent worker access structures or surfaces;

- b) Test quarterly all other pressure relief valves in gas service, pumps in light liquid service, valves in light liquid service and in gas service, and compressors.
- c) If less than or equal to 2 percent of the valves in light liquid service and in gas service tested pursuant to subsection (b) are found not to leak for 5 consecutive quarters, no leak tests shall be required for three consecutive quarters. Thereafter, leak tests shall resume for the next quarter. If that test shows less than or equal to 2 percent of the valves in light liquid service and in gas service are leaking, then no tests are required for the Next 3 quarters. If more than 2 percent are leaking, then tests are required for the next 5 quarters.
- d) Observe visually all pump seals weekly.
- e) Test immediately any pump seal in light liquid service from which liquids are observed dripping.
- f) Test any relief valve within 24 hours after it has vented to the atmosphere.
- g) Routine instrument monitoring of valves which are not externally regulated, flanges, and equipment components in heavy liquid service, is not required. However, any valve which is not externally regulated, flange, or piece of equipment component in heavy liquid service that is found to be leaking on the basis of sight, smell or sound shall be repaired as soon as practicable but no later than 30 days after the leak is found.
- h) Test immediately after repair any component that was found leaking.
- i) Within 1 hour of its detection, a weatherproof, readily visible tag, in bright colors such as red or yellow, bearing an identification number and the date on which the leak was detected must be affixed on the leaking component and remain in place until the leaking component is repaired.
- j) Any component that is in vacuum service, or any pressure relief devices connected to an operating flare header or to a vapor recovery devices are is exempt from the monitoring requirements in this Section.

(Source: Amended at _____ Ill. Reg. _____, effective _____).

Section 215.435 Report for Leaks

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Section 215.430 through ~~215.438~~ 215.439 shall:

- a) Submit quarterly reports to the Agency on or before March 31, June 30, September 30, and December 31 of each year, listing all leaking components identified pursuant to Section 215.432 but not repaired within 15 days, all leaking components awaiting process unit shutdown, the total number of components inspected, the type of components inspected, and the total number of components found leaking, the total number of valves in light liquid and in gas service inspected and the number and percentage of valves found leaking.
- b) Submit a signed statement with the report attesting that all monitoring and repairs were performed as required under Section 215.430 through 215.436.

(Source: Amended at _____ Ill. Reg. _____, effective _____).

Section 215.437 Open-Ended Valves

- a) Each open-ended valve shall be equipped with a cap, blind flange, plug, or a second valve, except during operations requiring fluid flow through the open-ended valve.
- b) Each open-ended valve equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.
- c) Components which are open-ended valves and which serve as a sampling connection shall be equipped with a closed purge system or closed vent system controlled such that:
 - 1) A closed purge system or closed vent system shall return Purged purged process fluid shall be returned to the process line with zero VOM volatile organic material emissions to the atmosphere, or
 - 2) A closed purge system or closed vent system shall collect and recycle Purged purged process fluid shall be collected and recycled to the process line with zero volatile organic material emissions to the atmosphere, or

3) Purged process fluid shall be transported to a control device that complies with the requirements of Section 215.438.

d) In-situ sampling systems are exempt from subsection (c).

(Source: Amended at _____ Ill. Reg. _____, effective _____).

215.438 Standards for Control Devices

Control devices used to comply with Section 215.437(c) shall comply with following:

- a) If the control device is a vapor recovery system (for example, condensers and adsorbers) it shall be designed and operated to recover the volatile organic material emissions vented to it with an efficiency of 95 percent or greater.
- b) If the control device is an enclosed combustion device, it shall be designed and operated to reduce the volatile organic material emissions vented to it with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 C.
- c) If the control device is a flare, it shall:
 - 1) Be designed for and operated with no visible emissions as determined by USEPA Reference Method 22, 40 CFR 60, Appendix A, incorporated by reference in Section 215.105, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
 - 2) Be operated with a pilot flame present at all times and shall be monitored with a thermocouple or any other equivalent device to detect the presence of the pilot flame.
 - 3) Be steam-assisted, air assisted, or nonassisted.
 - 4) Be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be calculated using the following equation:

$$H_r = K \sum_{i=1}^n C_i H_i$$

Where:

H_r - Net heating value of the sample, MJ/scm:
where the net enthalpy per mole of offgas is based
on combustion at 25 C and 760 mm Hg, but the
standard temperature for determining the value
corresponding to one mole is 20 C.

$$K = \text{Constant, } \frac{1}{1.740 \times 10^7} \frac{\text{g mole}}{\text{ppm scm}} \frac{\text{MJ}}{\text{kcal}}$$

where

standard temperature for $\frac{\text{g mole}}{\text{scm}}$ is 20 C.

C_i = Concentration of sample component i, in
ppm, as measured by USEPA Reference
Method 18, 40 CFR 60, Appendix A (1986),
and ASTM D 2504-83, both incorporated by
reference in Section 215.105.

H_i = Net heat of combustion of sample
component i, kcal/g mole. The heats of
combustion may be determined using ASTM D
2382-83, incorporated by reference in
Section 215.105, values are not available
or cannot be calculated.

5) Steam-assisted and nonassisted flares shall be
designed and operated with an exit velocity, as
determined by dividing the volumetric flowrate (in
units of standard temperature and pressure), as
determined by USEPA Reference Method 2 or 2A, 40
CFR 60, Appendix A (1986) incorporated by reference
in Section 215.105, as appropriate; by the
unobstructed (free) cross sectional area of the
flare tip, less than 18 m/sec (60 ft/sec.).

6) Air-assisted flares shall be designed and operated
with an exit velocity less than the maximum
permitted velocity, V_{max}, as determined by the
following equation:

$$V_{\text{max}} = 8.706 + 0.7084(H_r)$$

V_{max} = Maximum permitted velocity, m/sec.

8.706 = Constant.

0.7084 = Constant.

H_r = The net heating value as determined in subsection (c)(4) of this section.

- d) If the control device is a closed container, it shall be designed and operated to reduce the volatile organic material emissions, vented from purged process fluid after transfer, to zero volatile organic material emissions as determined by USEPA Reference Method 21 as specified at 40 CFR 60, Appendix A (1986), incorporated by reference in Section 215.105. For purposes of this Section, the phrase "after transfer" shall refer to the time at which the entire amount of purged process fluid resulting from a flushing or cleaning of the sample line enters the closed container or containers including the final container(s) prior to disposal.
- e) The owner or operator of a control device shall monitor the control device to ensure that it is operated and maintained in conformance with its design.
- f) The control device shall be operated at all times when emissions may be vented to it.

(Source: Section 215.438 renumbered to Section 215.439, new Section 215.438 adopted at _____ Ill. Reg. _____, effective _____).

Section 215.438215.439 Compliance Date

The owner or operator of a synthetic organic chemical or polymer manufacturing plant subject to Sections 215.430 through ~~215.438~~ 215.439 shall comply with the standards and limitations of those Sections no later than December 31, 1987.

(Source: Section 215.439 renumbered from Section 215.438 and amended at _____ Ill. Reg. _____, effective _____).

APPENDIX D

LIST OF CHEMICALS DEFINING SYNTHETIC
ORGANIC CHEMICAL AND POLYMER MANUFACTURING

<u>OEFD No. *</u>	<u>CAS No. a</u>	<u>Chemical</u>
20	<u>105-57-7</u>	Acetal
30	<u>75-07-0</u>	Acetaldehyde
40	<u>107-89-1</u>	Acetaldol
50	<u>60-35-5</u>	Acetamide
65	<u>103-84-4</u>	Acetanilide
70	<u>64-19-7</u>	Acetic acid
80	<u>108-24-7</u>	Acetic anhydride
90	<u>67-64-1</u>	Acetone
100	<u>75-86-5</u>	Acetone cyanohydrin
110	<u>75-05-8</u>	Acetonitrile
120	<u>98-86-2</u>	Acetophenone
125	<u>75-36-5</u>	Acetyl chloride
130	<u>74-86-2</u>	Acetylene
140	<u>107-02-8</u>	Acrolein
150	<u>79-06-1</u>	Acrylamide
160	<u>79-10-7</u>	Acrylic acid & esters
170	<u>107-13-1</u>	Acrylonitrile
180	<u>124-04-9</u>	Adipic acid
185	<u>111-69-3</u>	Adiponitrile
190	(b)	Alkyl naphthalenes
200	<u>107-18-6</u>	Allyl alcohol
210	<u>107-05-1</u>	Allyl chloride
220	<u>1321-11-5</u>	Aminobenzoic acid
230	<u>111-41-1</u>	Aminoethylethanolamine
235	<u>123-30-8</u>	p-aminophenol
240	<u>628-63-7,</u> <u>123-92-2</u>	Amyl acetates
250	<u>71-41-0c</u>	Amyl alcohols
260	<u>110-58-7</u>	Amyl amine
270	<u>543-59-9</u>	Amyl chloride
280	<u>110-68-7c</u>	Amyl mercaptans
290	<u>1322-06-1</u>	Amyl phenol
300	<u>62-53-3</u>	Aniline
310	<u>142-04-1</u>	Aniline hydrochloride
320	<u>29191-52-4</u>	Anisidine
330	<u>100-66-3</u>	Anisole
340	<u>118-92-3</u>	Anthranilic acid
350	<u>84-65-1</u>	Anthraquinone
360	<u>100-52-7</u>	Benzaldehyde
370	<u>55-21-0</u>	Benzamide
380	<u>71-43-2</u>	Benzene
390	<u>98-48-6</u>	Benzenedisulfonic acid
400	<u>98-11-3</u>	Benzenesulfonic <u>Benzenesulfonic acid</u>
410	<u>134-81-6</u>	Benzil

420	<u>76-93-7</u>	Benzillic acid
430	<u>65-85-0</u>	Benzoic acid
440	<u>119-53-9</u>	Benzoin
450	<u>100-47-0</u>	Benzonitrile
460	<u>119-61-9</u>	Benzophenone
480	<u>98-07-7</u>	Benzotrichloride
490	<u>98-88-4</u>	Benzoyl chloride
500	<u>100-51-6</u>	Benzyl alcohol
510	<u>100-46-9</u>	<u>Benzyl amine</u> <u>Benzylamine</u>
520	<u>120-51-4</u>	Benzyl benzoate
530	<u>100-44-7</u>	Benzyl chloride
540	<u>98-87-3</u>	Benzyl dichloride
550	<u>92-52-4</u>	Biphenyl
560	<u>80-05-7</u>	Bisphenol A
570	<u>10-86-1</u>	Bromobenzene
580	<u>27497-51-4</u>	Bromonaphthalene
590	<u>106-99-0</u>	Butadiene
592	<u>106-98-9</u>	l-butene
600	<u>123-86-4</u>	n-butyl acetate
630	<u>141-32-2</u>	n-butyl acrylate
640	<u>71-36-3</u>	n-butyl alcohol
650	<u>78-92-2</u>	s-butyl alcohol
660	<u>75-65-0</u>	t-butyl alcohol
670	<u>109-73-9</u>	n-butylamine
680	<u>13952-84-6</u>	s-butylamine
690	<u>75-64-9</u>	t-butylamine
700	<u>98-73-7</u>	<u>p-tert tert-butyl benzoic acid</u>
	<u>107-88-0</u>	<u>1,3-butylene glycol</u>
750	<u>123-72-8</u>	n-butyraldehyde
760	<u>107-92-6</u>	Butyric acid
770	<u>106-31-0</u>	Butyric anhydride
780	<u>109-74-0</u>	Butyronitrile
785	<u>105-60-2</u>	Caprolactam
790	<u>75-1-50</u>	Carbon disulfide
800	<u>558-13-4</u>	Carbon tetrabromide
810	<u>55-23-5</u>	Carbon tetrachloride
820	<u>9004-35-7</u>	Cellulose acetate
840	<u>79-11-8</u>	Chloroacetic acid
850	<u>108-42-9</u>	m-chloroaniline
860	<u>95-51-2</u>	o-chloroaniline
870	<u>106-47-8</u>	p-chloroaniline
880	<u>35913-09-8</u>	Chlorobenzaldehyde
890	<u>108-90-7</u>	Chlorobenzene
90	<u>118-91-2</u>	Chlorobenzoic acid
	<u>535-80-8</u>	
	<u>74-11-3C</u>	
905	<u>2136-81-4</u>	Chlorobenzotrichloride
	<u>2136-89-2</u>	
	<u>5216-25-1C</u>	
	<u>1321-03-5</u>	
910	<u>75-45-6</u>	Chlorobenzoyl chloride
920	<u>25497-29-4</u>	Chlorodifluoroethane
921		Chlorodifluoromethane

930	<u>67-66-3</u>	Chloroform
940	<u>25586-43-0</u>	Chloronaphthalene
950	<u>88-73-3</u>	o-chloronitrobenzene
951	<u>100-00-5</u>	p-chloronitrobenzene
960	<u>25167-80-0</u>	Chlorophenols
964	<u>126-99-8</u>	Chloroprene
965	<u>7790-94-5</u>	Chlorosulfonic acid
970	<u>108-41-8</u>	m-chlorotoluene
980	<u>95-49-8</u>	o-chlorotoluene
990	<u>106-43-4</u>	p-chlorotoluene
992	<u>75-72-9</u>	Chlorotrifluoromethane
1000	<u>108-39-4</u>	m-cresol
1010	<u>95-48-7</u>	o-cresol
1020	<u>106-44-5</u>	p-cresol
1021	<u>1319-77-3</u>	Mixed cresols
1030	<u>1319-77-3</u>	Cresylic acid
1040	<u>4170-30-0</u>	Crotonaldehyde
1050	<u>3724-65-0</u>	Crontonic acid
1060	<u>98-82-8</u>	Cumene
1070	<u>80-15-9</u>	Cumene hydroperoxide
1080	<u>372-09-8</u>	Cyanoacetic acid
1090	<u>506-77-4</u>	Cyanogen chloride
1100	<u>108-80-5</u>	Cyanuric acid
1110	<u>108-77-0</u>	Cyanuric chloride
1120	<u>110-82-7</u>	Cyclohexane
1130	<u>108-93-0</u>	Cyclohexanol
1140	<u>108-94-1</u>	Cyclohexanone
1150	<u>110-83-8</u>	Cyclohexene
1160	<u>108-91-8</u>	Cyclohexylamine
1170	<u>111-78-4</u>	Cyclooctadiene
1180	<u>112-30-1</u>	Decanol
1190	<u>123-42-2</u>	Diacetone alcohol
1200	<u>27576-04-1</u>	Diaminobenzoic acid
1210	<u>95-76-1,</u>	Dichloroaniline
	<u>95-82-9,</u>	
	<u>554-00-7,</u>	
	<u>608-27-5,</u>	
	<u>608-31-1,</u>	
	<u>626-43-7,</u>	
	<u>27134-27-6,</u>	
	<u>57311-92-9c</u>	
1215	<u>541-73-1</u>	m-dichlorobenzene
1216	<u>95-50-1</u>	o-dichlorobenzene
1220	<u>106-46-7</u>	p-dichlorobenzene
1221	<u>75-71-8</u>	Dichlorodifluoromethane
1240	<u>114-44-4</u>	Dichloroethyl ether
	<u>107-06-2</u>	1,2-dichloroethane (EDC)
1250	<u>96-23-1</u>	Dichlorohydrin
1270	<u>26952-23-8</u>	Dichloropropene
1280	<u>101-83-7</u>	Dicyclohexylamine
1290	<u>109-89-7</u>	Diethylamine
1300	<u>111-46-6</u>	Diethylene glycol

1304	<u>112-36-7</u>	Diethylene glycol diethyl ether
1305	<u>111-96-6</u>	Diethylene glycol dimethyl ether
1310	<u>112-34-5</u>	Diethylene glycol monobutyl glycol monobutyl ether
1320	<u>124-17-7</u>	Diethylene glycol monobutyl glycol monobutyl ether acetate
1330	<u>111-90-0</u>	Diethylene glycol monoethyl glycol monoethyl ether
1340	<u>112-15-2</u>	Diethylene glycol monoethyl glycol monomethyl ether acetate
1360	<u>111-77-3</u>	Diethylene glycol monomethyl glycol monomethyl ether
1420	<u>64-67-5</u>	Diethyl sulfate
1430	<u>75-37-6</u>	Difluoroethane
1440	<u>25167-70-8</u>	Diisobutylene
1442	<u>26761-40-0</u>	Diisodecyl phthalate
1444	<u>27554-26-3</u>	Diisooctyl phthalate
1450	<u>674-82-8</u>	Diketene
1460	<u>124-40-3</u>	Dimethylamine
1470	<u>121-69-7</u>	N,N-dimethylaniline
1480	<u>115-10-6</u>	N,N-dimethyl ether dimethyl ether
1490	<u>68-12-2</u>	N,N-dimethylformamide
1495	<u>57-14-7</u>	Dimethylhydrazine
1500	<u>77-78-1</u>	Dimethyl sulfate
1510	<u>75-18-3</u>	Dimethyl sulfide
1520	<u>67-68-5</u>	Bimethylsulfoxide Dimethyl sulfoxide
1530	<u>120-61-6</u>	Bimethylterephthalate Dimethyl terephthalate
1540	<u>99-34-3</u>	3,5-dinitrobenzoic acid
1545	<u>51-28-5</u>	Dinitrophenol
	<u>25321-14-6</u>	<u>Dinitrotoluene</u>
1560	<u>123-91-1</u>	Dioxane
1570	<u>646-06-0</u>	Dioxolane
1580	<u>122-39-4</u>	Diphenylamine
1590	<u>101-84-4</u>	Diphenyl oxide
1600	<u>102-08-9</u>	Diphenyl thiourea
1610	<u>25265-71-8</u>	Dipropylene glycol
1620	<u>25378-22-7</u>	Dodecene
1630	<u>28675-17-4</u>	Dodecylaniline
1640	<u>27193-86-8</u>	Dodecylphenol
1650	<u>106-89-8</u>	Epichlorohydrin
1660	<u>64-17-5</u>	Ethanol
1661	<u>141-43-5c</u>	Ethanolamines
1670	<u>141-78-6</u>	Ethyl acetate
1680		Ethyl
	<u>141-97-9</u>	<u>Ethyl acetate</u>
1690	<u>140-88-5</u>	Ethyl acrylate
1700	<u>75-04-7</u>	Ethylamine
1710	<u>100-41-4</u>	Ethylbenzene
1720	<u>74-96-4</u>	Ethyl bromide
1730	<u>9004-57-3</u>	Ethylcellulose
1740	<u>75-00-3</u>	Ethyl chloride

1750	<u>105-39-5</u>	Ethyl chloroacetate
1760	<u>105-56-6</u>	Ethylcyanoacetate
1770	<u>74-85-1</u>	Ethylene
1780	<u>96-49-1</u>	Ethylene carbonate
1790	<u>107-07-3</u>	Ethylene Chlorohydrin
1800	<u>107-15-3</u>	Ethylenediamine
1810	<u>106-93-4</u>	Ethylene dibromide
1830	<u>107-21-1</u>	Ethylene glycol
1840	<u>111-55-7</u>	Ethylene glycol diacetate
1870	<u>110-71-4</u>	Ethylene glycol dimethyl ether
1890	<u>111-76-2</u>	Ethylene glycol monobutyl ether
1900	<u>112-07-2</u>	Ethylene glycol monobutyl ether acetate
1910	<u>110-80-5</u>	Ethylene glycol monoethyl ether
1920	<u>111-15-9</u>	Ethylene glycolmonoethyl ether acetate
1930	<u>109-86-4</u>	Ethylene glycolmonoethyl ether
1940	<u>110-49-6</u>	Ethylene glycolmonomethyl ether acetate
1960	<u>122-99-6</u>	Ethylene glycol monophenyl ether
1970	<u>2807-30-9</u>	Ethylene glycolmonopropyl ether
1980	<u>75-21-8</u>	Ethylene oxide
1990	<u>60-29-7</u>	Ethyl ether
2000	<u>104-76-7</u>	2-ethylhexanol
2010	<u>122-51-0</u>	Ethyl orthoformate
2020	<u>95-92-1</u>	Ethyl oxalate
2030	<u>41892-71-1</u>	Ethyl sodium oxaloacetate
2040	<u>50-00-0</u>	Formaldehyde
2050	<u>75-12-7</u>	Formamide
2060	<u>64-18-6</u>	Formic acid
2070	<u>110-17-8</u>	Fumaric acid
2073	<u>98-01-1</u>	Furfural
2090	<u>56-81-5</u>	Glycerol (Synthetic)
2091	<u>26545-73-7</u>	Glycerol dichlorohydrin
2100	<u>25791-96-2</u>	Glycerol triether
2110	<u>56-40-6</u>	Glycine
2120	<u>107-22-2</u>	Glyoxal
2145	<u>118-74-1</u>	Hexachlorobenzene
2150	<u>67-72-1</u>	Hexachloroethane
2160	<u>36653-82-4</u>	Hexadecyl alcohol
2165	<u>124-09-4</u>	Hexamethylenediamine
2170	<u>629-11-8</u>	Hexamethylene glycol
2180	<u>100-97-0</u>	Hexamethylenetetramine
2190	<u>74-90-8</u>	Hydrogen cyanide
2200	<u>123-31-9</u>	Hydroquinone
2210	<u>99-96-7</u>	p-hydroxy-benzeic <u>p-hydroxybenzoic acid</u>
2240	<u>26760-64-5</u>	Isoamylene
2250	<u>78-83-1</u>	Isobutanol
2260	<u>110-19-0</u>	Isobutyl acetate
2261	<u>115-11-7</u>	Isobutylene

2270	<u>78-84-2</u>	Isobutyraldehyde
2280	<u>79-31-2</u>	Isobutyric acid
2300	<u>25339-17-7</u>	Isodecanol
2320	<u>26952-21-6</u>	Isooctyl alcohol
2321	<u>78-78-4</u>	Isopentane
2330	<u>78-59-1</u>	Isophorone
2340	<u>121-91-5</u>	Isophthalic acid
2350	<u>78-79-5</u>	Isoprene
2360	<u>67-63-0</u>	Isopropanol
2370		Isopropyl
	<u>108-21-4</u>	Isopropyl acetate
2380	<u>75-31-0</u>	Isopropylamine
2390	<u>75-29-6</u>	Isopropyl chloride
2400	<u>25168-06-3</u>	Isopropylphenol
2410	<u>463-51-4</u>	Ketene
2414	<u>(b)</u>	Linear alkyl sulfonate <u>alkyl</u> sulfonate
2417	<u>123-01-3</u>	Linear alkylbenzene (Linear dodecylbenzene)
2420	<u>110-16-7</u>	Maleic acid
2430	<u>108-31-6</u>	Maleic anhydride
2440	<u>6915-15-7</u>	Malic acid
2450	<u>141-79-7</u>	Mesityl oxide
2460	<u>121-47-1</u>	Metanilic acid
2240	<u>79-41-4</u>	Methacrylic acid
2490	<u>563-47-3</u>	Methallyl chloride
2500	<u>67-56-1</u>	Methanol
2510	<u>79-20-9</u>	Methyl acetate
2520	<u>105-45-3</u>	Methyl acetoacetate
2530	<u>74-89-5</u>	Methylamine
2540	<u>100-61-8</u>	n-methylaniline
2545	<u>74-83-9</u>	Methyl bromide
2550	<u>37365-71-2</u>	Methyl butynol
2560	<u>74-87-3</u>	Methyl chloride
2570	<u>108-87-2</u>	Methyl cyclohexane
2590	<u>1331-22-2</u>	Methyl cyclohexanone
2620	<u>75-09-2</u>	Methylene chloride
2630	<u>101-77-9</u>	Methylene dianiline
2635	<u>101-68-8</u>	Methylene diphenyl diisocyanate
2640	<u>78-93-3</u>	Methyl ethyl ketone
2644	<u>107-31-3</u>	Methyl formate
2650	<u>108-11-2</u>	Methyl isobutyl carbinol
2660	<u>108-10-1</u>	Methyl isobutyl ketone
2665	<u>80-62-6</u>	Methyl methacrylate
2670	<u>77-75-8</u>	Methyl pentynol <u>Methylpentynol</u>
2690	<u>98-83-9</u>	a-methylstyrene
2700	<u>110-91-8</u>	Morpholine
2710	<u>85-47-2</u>	a-naphthalene sulfonic acid
2720	<u>120-18-3</u>	B-naphthalene sulfonic acid
2730	<u>90-15-3</u>	a-naphthol
2740	<u>135-19-3</u>	B-naphthol
2750	<u>75-98-9</u>	Neopentanoic acid

2756	<u>88-74-4</u>	o-nitroaniline
2757	<u>100-01-6</u>	p-nitroaniline
2760	<u>91-23-6</u>	o-nitroanisole
2762	<u>100-17-4</u>	p-nitroanisole
2770	<u>98-95-3</u>	Nitrobenzene
2780	<u>27178-83-2c</u>	Nitrobenzoic acid (o, m & p)
2790	<u>79-24-3</u>	Nitroethane
2791	<u>75-52-5</u>	Nitromethane
2792		Nitrophenol
	<u>88-75-5</u>	<u>2-Nitrophenol</u>
2795	<u>25322-01-4</u>	Nitropropane
2800	<u>1321-12-6</u>	Nitrotoluene
2810	<u>27215-95-8</u>	Nonene
2820	<u>25154-52-3</u>	Nonyl phenol <u>Nonylphenol</u>
2830	<u>27193-28-8</u>	Octyl phenol <u>Octylphenol</u>
2840	<u>123-63-7</u>	Paraldehyde
2850	<u>115-77-5</u>	Pentaerythritol
2851	<u>109-66-0</u>	n-pentane
2855	<u>109-67-1</u>	1-pentene
2860	<u>127-18-4</u>	Perchloroethylene
2882	<u>594-42-3</u>	<u>Perchloromethylmercaptan</u> <u>Perchloromethyl mercaptan</u>
2890	<u>94-70-2</u>	o-phenetidine
2900	<u>156-43-4</u>	p-phenetidine
2910	<u>108-95-2</u>	Phenol
2920	<u>98-67-9,</u> <u>585-38-6,</u> <u>609-46-1,</u> <u>133-39-7c</u>	Phenolsulfonic acids
2930	<u>91-40-7</u>	Phenyl anthranilic acid
2940	(b)	Phenylenediamine
	<u>75-44-5</u>	Phosgene
2960	<u>85-44-9</u>	Phthalic anhydride
2970	<u>85-41-6</u>	Phthalimide
2973	<u>108-99-6</u>	ab -picoline
2976	<u>110-85-0</u>	Piperazine
3000	<u>9003-29-6,</u> <u>25036-29-7c</u>	Polybutenes
3010	<u>25322-68-3</u>	Polyethylene glycol
3025	<u>25322-69-4</u>	Polypropylene glycol
3063	<u>123-38-6</u>	Propionaldehyde <u>Propionaldehyde</u>
3066	<u>79-09-4</u>	Propionic acid
3070	<u>71-23-8</u>	n-propyl alcohol
3075	<u>107-10-8</u>	Propylamine
3080	<u>540-54-5</u>	Propyl chloride
3090	<u>115-07-1</u>	Propylene
3100	<u>127-00-4</u>	Propylene chlorohydrin
3110	<u>78-87-5</u>	Propylene dichloride
3111	<u>57-55-6</u>	Propylene glycol
3120	<u>75-56-9</u>	Propylene oxide
3130	<u>110-86-1</u>	Pyridine
3140	<u>106-51-4</u>	Quinone

3150	<u>108-46-3</u>	Resorcinol
3160	<u>27138-57-4</u>	Resorcylic acid
3170	<u>69-72-7</u>	Salicylic acid
3180	<u>127-09-3</u>	Sodium acetate
3181	<u>532-32-1</u>	Sodium benzoate
3190	<u>9004-32-4</u>	Sodium carboxymethylcellulose <u>carboxymethyl cellulose</u>
3191	<u>3926-62-3</u>	Sodium chloroacetate
3200	<u>141-53-7</u>	Sodium formate
3210	<u>139-02-6</u>	Sodium phenate
3220	<u>110-44-1</u>	Sorbic acid
3230	<u>100-42-5</u>	Styrene
3240	<u>110-15-6</u>	Succinic acid
3250	<u>110-61-2</u>	Succinitrile
3251	<u>121-57-3</u>	Sulfanilic acid
3260	<u>126-33-0</u>	Sulfolane
3270	<u>1401-55-4</u>	Tannic acid
3280	<u>100-21-0</u>	Terephthalic acid
3290 & 3291	<u>79-34-5c</u>	Tetrachloroethanes
3300	<u>117-08-8</u>	Tetrachlorophthalic anhydride
3310	<u>78-00-2</u>	Tetraethyllead <u>Tetraethyl lead</u>
3320	<u>119-64-2</u>	Tetrahydronaphthalene
3330	<u>85-43-8</u>	Tetrahydrophthalic anhydride
3335	<u>75-74-1</u>	Tetramethyllead <u>Tetramethyl lead</u>
3340	<u>110-60-1</u>	Tetramethylenediamine
3341	<u>110-18-9</u>	Tetramethylethylenediamine
3349	<u>108-88-3</u>	Toluene
3350	<u>95-80-7</u>	Toluene-2,4-diamine
3354	<u>584-84-9</u>	Toluene-2,4-diisocyanate
3355	<u>26471-62-5</u>	Toluene diisocyanates (mixture)
3360	<u>1333-07-9</u>	Toluene sulfonamide
3370	<u>104-15-4c</u>	Toluene sulfonic <u>Toluenesulfonic</u> acids
3380	<u>98-59-9</u>	Toluene sulfonylchloride <u>sulfonylchloride</u>
3381, 3390 & 3391 3393	<u>26915-12-8</u>	Toluidines
	<u>87-61-6,</u> <u>108-70-3,</u> <u>120-82-1c</u>	Trichlorobenzenes
3395	<u>71-55-6</u>	1,1,1-trichloroethane
3400	<u>79-00-5</u>	1,1,2-trichloroethane
3410	<u>79-01-6</u>	Trichloroethylene
3411	<u>75-69-4</u>	Trichlorofluoromethane
3420	<u>96-18-4</u>	1,2,3-trichloropropane
3430	<u>76-13-1</u>	1,1,2-trichloro- 1,2 - 1,2,2-trifluoroethane
3450	<u>121-44-8</u>	Triethylamine
3460	<u>112-27-6</u>	Triethylene glycol
3470	<u>112-49-2</u>	Triethylene glycol dimethyl <u>glycol</u> <u>dimethyl ether</u>
3480	<u>7756-94-7</u>	Triisobutylene

3490	<u>75-50-3</u>	Trimethylamine
	<u>57-13-6</u>	Urea
3510	<u>108-05-4</u>	Vinyl acetate
3520	<u>75-01-4</u>	Vinyl chloride
3530	<u>75-35-4</u>	Vinylidene chloride
3540	<u>25013-15-4</u>	Vinyl toluene
3541	<u>1330-20-7</u>	Xylenes (mixed)
3560	<u>95-47-6</u>	o-xylene
3570	<u>106-42-3</u>	p-xylene
3580	<u>1300-71-6</u>	Xylenol
3590	<u>1300-73-8</u>	Xylidine
	<u>(b)</u>	<u>methyterbutyl methyl tert</u>
		<u>-butyl ether</u>
	<u>9002-88-4</u>	Polyethylene
	<u>(b)</u>	Polypropylene
	<u>9009-53-6</u>	Polystyrene

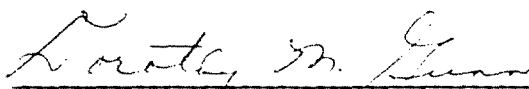
* The OEPDB numbers are reference indices assigned to the various chemicals in the Organic Chemical Producers Data Base developed by the USEPA.

- a) CAS numbers refer to the Chemical Abstracts Registry numbers assigned to specific chemicals, isomers or mixtures of chemicals. Some isomers or mixtures that are covered by the standards do not have CAS numbers assigned to them. The standards apply to all of the chemicals listed, whether CAS numbers have been assigned or not.
- b) No CAS number(s) have been assigned to this chemical, to its isomers, or mixtures containing these chemicals.
- c) CAS numbers for some of the isomers are listed: the standards apply to all of the isomers and mixtures, even if CAS numbers have not been assigned.

(Source: Amended at _____ Ill. Reg. _____, effective _____).

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 8th day of September, 1988, by a vote of 7-0.



 Dorothy M. Gunn, Clerk
 Illinois Pollution Control Board