

STATE OF WEST VIRGINIA
AIR POLLUTION CONTROL COMMISSION

REGULATION XIII
REGISTRATION OF AFFECTED SOURCE(S)*

(Pursuant to Section 3, Series XIII, and Chapter 16-20-11B of the Code of West Virginia.)

INSTRUCTIONS:

1. Answer all questions. If certain questions are not applicable to your activity, please indicate NONE or NOT APPLICABLE.
2. Use the last 12 months of data available (e.g., 1971 or July 1, 1971 to July 1, 1972).

Specify period covered by Registration November 1, 1971 to November 1, 1972

3. If additional space is needed for answering any question, use additional sheets, following a similar format.
4. Return completed registration to:

Registration - Series XIII
West Virginia Air Pollution Control Commission
1558 Washington Street, East
Charleston, West Virginia 25311

Section I. GENERAL:

- A. Name of organization:

Union Carbide Corporation - Chemicals and Plastics Division

- B. Mailing address of organization:

P. O. Box 8004

South Charleston, West Virginia 25303

- C. Individual to contact regarding this registration:

Name R. G. Lilley Title Environmental Protection
Coordinator
Address Same as above Phone 747-3169

- D. Type of plant/unit (affected source)* being registered:

Solvent Resin Unit

- E. Plant/Unit (affected source)* location:

Nearest Town South Charleston, W. Va. County Kanawha

Directions to plant from nearest state road: North East

*See Regulation XIII, Sub-section 2.11. For the purposes of this Registration Form, the emission rate to be used to determine if a stationary source is an "affected source" in Sub-section 2.11 (a-2) of Regulation XIII will be that emission rate of each pollutant which may be emitted from all equipment at one location which together may be considered to form a discrete manufacturing process unit.

F. Person completing form Charles Fry

Charles E. Fry

Date Completed January 22, 1973

Reviewed By: Bert Murray
Bill Young

Section II. AFFECTED SOURCE INFORMATION:

- A. On the attached "List Form" list all affected sources to be registered and all applicable air pollution control devices. Also list all emission points to the atmosphere including emergency relief vents. Note that each affected source, each control device and each emission point must have an Identification Number.
- B. Construct on a separate sheet a schematic line diagram showing these sources, their air pollution control devices and atmospheric emission points in an understandable line sequence of operation. Show clearly which control device serves each source. Label the diagram with the Identification Numbers as well as descriptive words.
- C. Fill out an EMISSIONS POINTS DATA SHEET for all emission points on the list and diagram.

Section III. CERTIFICATION:

I hereby certify that all information in this registration and supplementary documents attached is true and correct to the best of my knowledge and that all reasonable efforts have been made to provide the most comprehensive information possible.

SIGNED _____

TITLE _____

DATE _____

EMISSIONS POINTS DATA SHEET

#1 Solvent Resin System

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxi-dants	Other (Specify)	CO	HC	NO _x	Oxi-dants	Other (Specify)
1e	6s	.254dia	6.1	.5	Ambient	.005		2.02			Acetone	13				
2e	6s	.076dia	27.4	1	Ambient	.105		.400					.4			
3e	6s	.025dia	30.5	2	Ambient	1.89		.32								
4e	6s	.076dia	30.5	1	Ambient	.105		.12			Acetone .2					
5e	6s	.025dia	12.2	2	Ambinet	1.89					Acetone 1.0 Isoprop .5					
6e	6s	.15 dia	13.4	6	Ambient	.160		4.36			Acetone 3 Isoprop 3					Acetone 1.4 Isoprop 1.4
7e	6s	.15 dia	13.4	6	70	.160		2			Acetone 2 Isoprop 2		1.6			Acetone .7 Isoprop .7
8e	6s	1.219 x 1.219	30.5	9,131	120	2.9		1.5 14.4			Acetone 97 Isoprop 24.5		.84			
9e	6s	1.219 x 1.219	30.5	9,131	120	2.9		14.4			Acetone 97 Isoprop 24.5					

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

APCC-R-3-72

UCC 103425

EMISSIONS POINTS DATA SHEET

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxidants	Other (Specify)	CO	HC	NO _x	Oxidants	Other (Specify)
10e	6s	1.219 x 1.219	30.5	9,131	120	2.9		14.4			Acetone 97 Isoprop 24.5					
11e	6s	.203dia	36.6	1,200	Ambient	17.5		.4			Acetone .25 Isoprop .1					
12e	6s	.305dia	30.5	650	Ambient	4.2		.21			Acetone .5 Isoprop .25					
13e	6s	.305dia	6.1	5	80	.030		.2			Acetone 10 Isoprop 1.5					Acetone 3.28 Isoprop .24
14e	6s	.254dia	6.1	4	80	.037		19			Acetone 4 Isoprop .3	9.74				Acetone 1.5 Isoprop .1
15e	6s	.254dia	6.1	3	75	.028		7.9			Acetone 1.5 Isoprop .3	3.943				Acetone .7 Isoprop .1
16e	6s	.33 dia	20.7	.2	Ambient	.001		3.9 .8 .1				1.847 .4 .02				

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

APCC-R-3-72

UCC 103426

EMISSIONS POINTS DATA SHEET

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temp- erature (°F)	Exit Gas Velocity (meters /sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxi- dants	Other (Specify)	CO	HC	NO _x	Oxi- dants	Other (Specify)
17e	6s	.33 dia	20.1	.2	Ambient	.001		.8 .1					.4 .02			
18e	6s	.16 dia	6.1	2	Ambient	.001		1.5 1.5					.83 .5			
ST 11 → 19e	6s	.076 dia	20.7	1.8	80	.180 +.021 ✓ +.159 ✓		100 1.0			Acetone 2		20.8 .17			Acetone .5
20e	6s	.20 dia	1.6	1.8	Ambient	.028		3.2			Acetone .05		.66			Acetone .01
21e	6s	.10 dia	16.2	2	Ambient	.011 2.0 ✓		.8			Acetone 2		.42			Acetone 1
22e	6s	.025 dia	1.6	1	Ambient	.940					Acetone 1.5					Acetone .67
23e	6s	.025 dia	7.0	1	70	.940 ✓ +.167 ✓ +.167 ✓		2.0			Acetone 1.0		.66			Acetone .33
24e	6s	.05 dia	16.1	1	Ambient	.240 ✓ +.167 ✓ +.073 ✓		.2			Isoprop 1.0		.08			Isoprop .1
25e	6s	.25 dia	6.1	1	Ambient	.094					Isoprop .7					Isoprop .33
26e	6s	Leak	6.1	Seal Leak	70	Seal Leak		10.15			Acetone .4					

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

EMISSIONS POINTS DATA SHEET

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxi-dants	Other (Specify)	CO	HC	NO _x	Oxi-dants	Other (Specify)
27e	6s	.1016	2.7)	Emergency relief devices that have not activated in over 5 years												
28e	6s	.076	19.4)													
29e	6s	.1524	2.7)													
30e	6s	.1524	21.4)													
31e	6s	.0381	6)													
32e	6s	.1016	19.4)													
33e	6s	.1016	2.7)													
34e	6s	.0762	19.4)													
35e	6s	.1524	19.4)													
36e	6s	.0762	6.1)													
37e	6s	.1524	27)													
38e	6s	.1016	27)	Seal Leak Emergency relief devices that have not activated in 5 years	70	Seal Leak	10.15	.004 vch			Acetone .4					
39e	6s	Leaks	6.4													
40e	6s	.1524	27)													
41e	6s	.1016	27)				10.146									

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

SECTION II LIST FORM

Identification Number

Affected Source Name

1s.
2s.
3s.
4s.
5s.
6s.
7s.
8s.
9s.
10s.
11s.
12s.
13s.
14s.
15s.
16s.
17s.
18s.

No. 1 Solvent Resin Process

Identification Number

Air Pollution Control Device (Type)

1c.
2c.
3c.
4c.
5c.
6c.
7c.
8c.
9c.
10c.
11c.
12c.
13c.
14c.
15c.
16c.
17c.
18c.

BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
BS & B Vent
Motor valve pressure control

Identification Number

Emission Point

1e.
2e.
3e.
4e.
5e.
6e.
7e.
8e.
9e.
10e.
11e.
12e.
13e.
14e.
15e.
16e.
17e.
18e.

Storage tank vent ✓
Vent scrubber tank vent ✓
Centrifuge vent ✓
Storage tank vent ✓
Mix tank vent ✓
Slurry tank vent ✓
Slurry tank vent ✓
Dryer discharge ✓
Dryer discharge ✓
Dryer discharge ✓
Transfer system vent
Product storage bin vent
Solvent storage tank vent
Solvent storage tank vent
Solvent storage tank vent
Column vent
Column vent
Storage tank vent

UCC 103429

SECTION II LIST FORM

Identification Number

Affected Source Name

- 1s.
- 2s.
- 3s.
- 4s.
- 5s.
- 6s.
- 7s.
- 8s.
- 9s.
- 10s.
- 11s.
- 12s.
- 13s.
- 14s.
- 15s.
- 16s.
- 17s.
- 18s.

Identification Number

Air Pollution Control Device (Type)

- 1c.
- 2c.
- 3c.
- 4c.
- 5c.
- 6c.
- 7c.
- 8c.
- 9c.
- 10c.
- 11c.
- 12c.
- 13c.
- 14c.
- 15c.
- 16c.
- 17c.
- 18c.

Identification Number

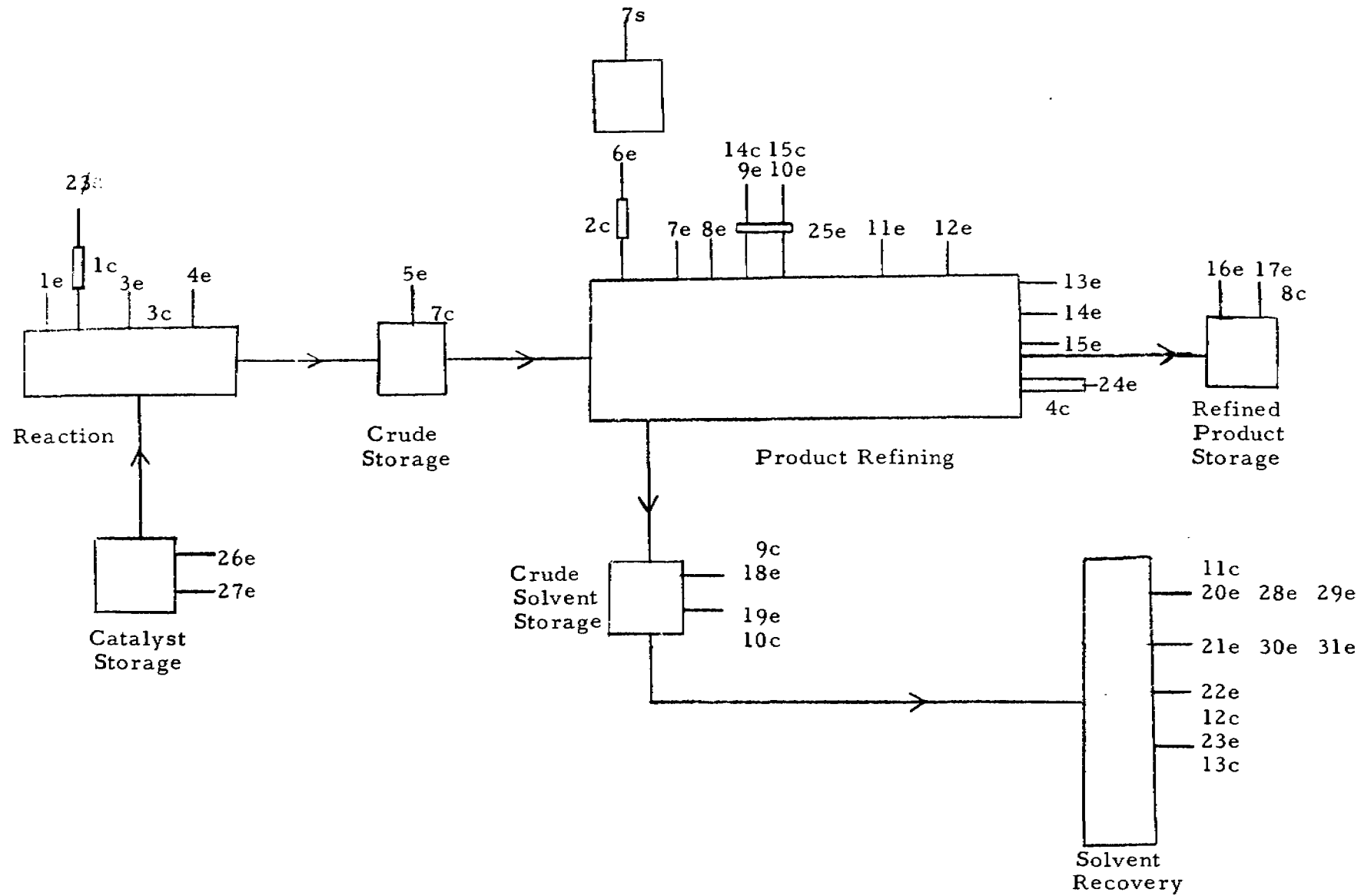
Emission Point

- 19e. Still condenser accumulator vent ✓
- 20e. Monomer storage tank vent
- 21e. Still condenser accumulator vent ✓
- 22e. Solvent storage tank vent
- 23e. Still condenser accumulator vent ✓
- 24e. Still condenser accumulator vent ✓
- 25e. Solvent storage tank vent
- 26e. Reactor agitator shaft seal leaks
- 27e.)
- 28e.)
- 29e.)
- 30e.)
- 31e.)
- 32e.)
- 33e.)
- 34e.)
- 35e.)
- 36e.)

Emergency relief devices

UCC 103430

No. 2 Solvent Resin System



UCC 103431

SECTION II LIST FORM

Identification Number

Affected Source Name

- 1s.
- 2s.
- 3s.
- 4s.
- 5s.
- 6s.
- 7s.
- 8s.
- 9s.
- 10s.
- 11s.
- 12s.
- 13s.
- 14s.
- 15s.
- 16s.
- 17s.
- 18s.

Identification Number

Air Pollution Control Device (Type)

- 1c.
- 2c.
- 3c.
- 4c.
- 5c.
- 6c.
- 7c.
- 8c.
- 9c.
- 10c.
- 11c.
- 12c.
- 13c.
- 14c.
- 15c.
- 16c.
- 17c.
- 18c.

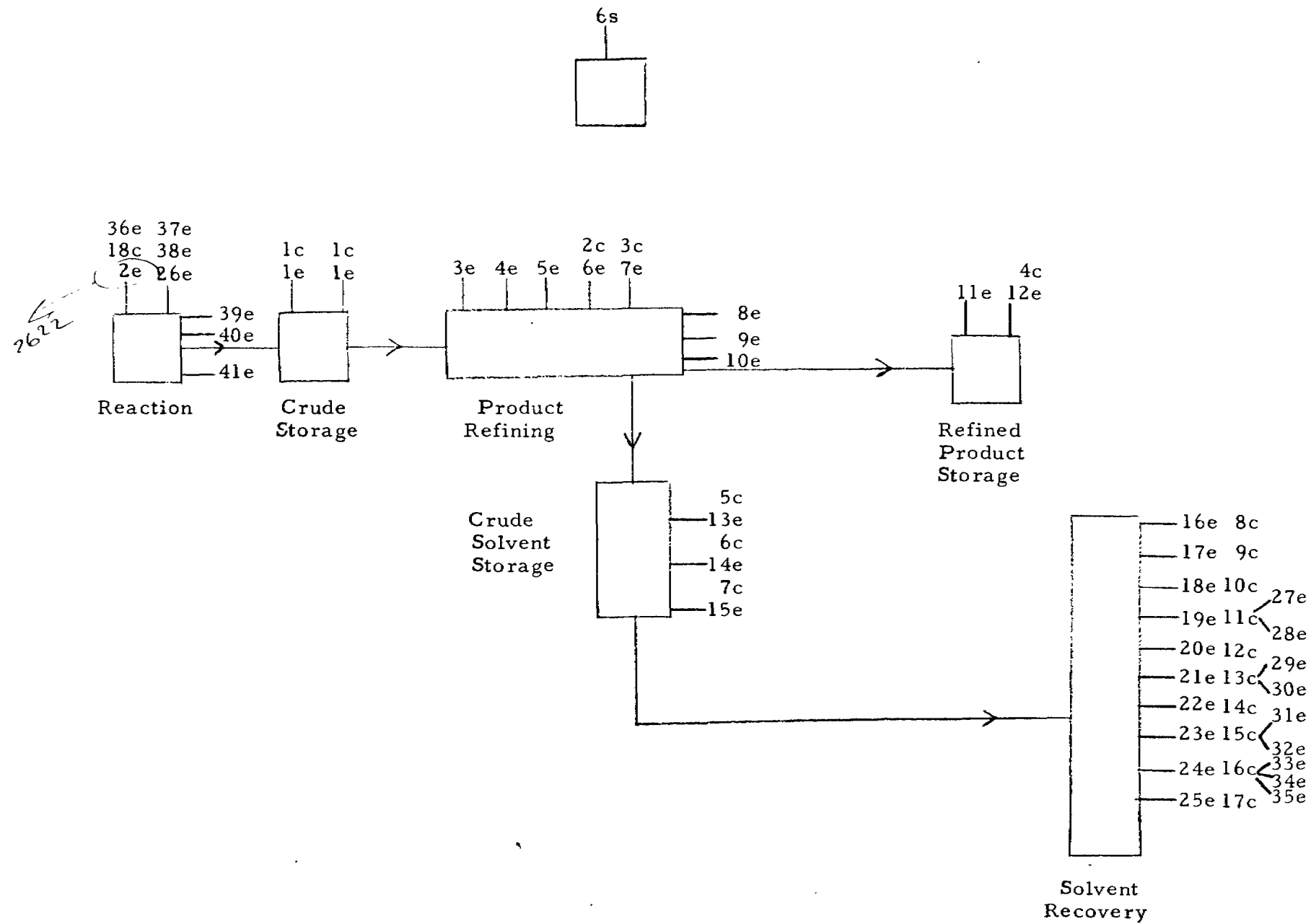
Identification Number

Emission Point

- | | |
|-------|-----------------------------------|
| 37e.) | |
| 38e.) | Emergency relief devices |
| 39e. | |
| 40e.) | Reactor agitator shaft seal leaks |
| 41e.) | Emergency relief devices |

UCC 103432

No. 1 Solvent Resin System



UCC 103433

EMISSIONS POINTS DATA SHEET

#2 Solvent Resin System

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxidants	Other (Specify)	CO	HC	NO _x	Oxidants	Other (Specify)
1e	7s	.051 dia	2.5	2	60	.466					MeAc 16 MeOh .4					MeAc 8.0 MeOh 2.0
2e	7s	.102 dia	25.0	4	Ambient	.233					MeAc 200 MeOh 30					MeAl .3 MeOh .1
3e	7s	.051 dia	9.0	.01	Ambient	.002					MeAc .1 MeOh .02					
4e	7s	.051 dia	10.0	2	Ambient	.466					MeAc 1.8 MeOh .8					
5e	7s	.254 dia	6.1	5	Ambient	.047					MeAc 3.0 MeOh 1.0					
6e	7s	.037 dia	30.5	1.2	Ambient	.497					MeAc 20.0 MeOh 5.0					MeAc 2.0 MeOh .5
7e	7s	.037 dia	30.5	2.0	Ambient	.860					MeAc 5.0 MeOh 1.0					
8e	7s	.037 dia	30.5	2.0	Ambient	.860					MeAc 10 MeOh .2					
9e	7s	.203 dia	13.5	.1	Ambient	.001					MeAc 120 MeOh 72					MeAc 2.0 MeOh 1.0
10e	7s	.203 dia	13.5	.1	75	.001					MeAc 120 MeOh 72					MeAc 2.0 MeOh 1.0

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

MeOh - Methanol

MeAc - Methyl Acetate

EMISSIONS POINTS DATA SHEET

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HC	NO _x	Oxidants	Other (Specify)	CO	HC	NO _x	Oxidants	Other (Specify)
11e	7s	.356dia	34.0	5,000	90	23.6					MeOh 135 MeAc 500					MeAc 160
12e	7s	.356dia	34.0	5,000	90	23.6					MeAc 500 MeOh 135					MeOh 40
13e	7s	.356dia	35.0	5,000	110	24.7					MeOh 13.5 MeAc 75					MeOh 40 MeAc 15
14e	7s	.356dia	35.0	5,000	110	24.7					MeAc 75 MeOh 27					MeOh 7
15e	7s	.356dia	35.0	7,000	95	33.3					MeAc 50 MeOh 3					MeAc 5 MeOh 3
16e	7s	.203dia	36.5	750	Ambient	10.9					MeAc .25 MeOh .1					
17e	7s	.305dia	30.5	650	Ambient	4.20					MeAc .5 MeOh .2					
18e	7s	.51 dia	6.1	4	Ambient	.009					MeAc 25 MeOh 10					MeAc 5.0 MeOh 2.0
19e	7s	.51 dia	6.1	4	Ambient	.009					MeAc 25 MeOh 10					MeAc 5.0 MeOh 2.0

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

EMISSIONS POINTS DATA SHEET

Identification Number ¹ of Emission Point to Atmosphere	List All Affected Source(s) ² Vented Through this point	Dimensions of Exit Point (meters)	Height of Exit Point Above Ground (meters)	Gas Volume Through Exit Point (ACFM)	Exit Gas Temperature (°F)	Exit Gas Velocity (meters/sec)	Maximum Potential Emissions ³ (lbs/hr)					Maximum Actual Emissions With Control Device Applied (lbs/hr)				
							CO	HIC	NO _x	Oxidants	Other (Specify)	CO	HIC	NO _x	Oxidants	Other (Specify)
20e	7s	.037dia	7.0	2.5	Ambient	1.035					MeAc 20 MeOh 3					MeAc 1.5 MeOh .3
21e	7s	.051dia	20.7	1	Ambient	.240					MeAc .1 MeOh 6.0					
22e	7s	.152dia	6.0	2	Ambient	.052					MeAc 4.0 MeOh 1.0					
23e	7s	.152dia	6.0	2	Ambient	.052					MeAc 0 MeOh 3.0					
24e	7s	.037dia	29.0	2,600	100	1136					MeAc 10 MeOh 5					MeAc 1.0 MeOh .5
25e	7s	.102dia	10.0	280	Ambient	16.3					MeAc .2 MeOh .001					
26e	7s	.0762	4		Ambient)											
27e	7s	.0508	4		Ambient)											
28e	7s	.1524	2		Ambient)											
29e	7s	.1016	6		Ambient)											
30e	7s	.1016	2.7		Ambient)											
31e	7s	.1524	19.4		Ambient)											

UCC 103436

1 Must correspond to number given on the Section II "List Form".

2 List by identification number assigned as required on the Section II "List Form".

3 Emissions that could be emitted if air pollution control equipment was not working or is not installed.

SECTION II LIST FORM

Identification Number	Affected Source Name
1s.	
2s.	
3s.	
4s.	
5s.	
6s.	
7s.	
8s.	No. 2 Solvent Resin Process
9s.	
10s.	
11s.	
12s.	
13s.	
14s.	
15s.	
16s.	
17s.	
18s.	

Identification Number	Air Pollution Control Device (Type)
1c.	Condenser
2c.	Condenser
3c.	Condenser
4c.	Condenser
5c.	BS & B
6c.	BS & B
7c.	BS & B
8c.	BS & B
9c.	BS & B
10c.	BS & B
11c.	Motor Valve
12c.	BS & B
13c.	BS & B
14c.	BS & B
15c.	BS & B
16c.	
17c.	
18c.	

Identification Number	Emission Point
1e.	Slurry Tank Vent
2e.	Dissolver Vent
3e.	Reactor Vent
4e.	Reactor Vent
5e.	Storage Tank Vent
6e.	Centrifuge Vent
7e.	Tank Vent
8e.	Mix Tank Vent
9e.	Slurry Tank Vent
10e.	Slurry Tank Vent
11e.	Dryer Discharge
12e.	Dryer Discharge
13e.	Dryer Discharge
14e.	Dryer Discharge
15e.	Dryer Discharge
16e.	Transfer System Vent
17e.	Storage Bin (Product) Vent
18e.	Solvent Storage Tank Vent

UCC 103437

SECTION II LIST FORM

Identification Number

Affected Source Name

- 1s.
- 2s.
- 3s.
- 4s.
- 5s.
- 6s.
- 7s.
- 8s.
- 9s.
- 10s.
- 11s.
- 12s.
- 13s.
- 14s.
- 15s.
- 16s.
- 17s.
- 18s.

Identification Number

Air Pollution Control Device (Type)

- 1c.
- 2c.
- 3c.
- 4c.
- 5c.
- 6c.
- 7c.
- 8c.
- 9c.
- 10c.
- 11c.
- 12c.
- 13c.
- 14c.
- 15c.
- 16c.
- 17c.
- 18c.

Identification Number

Emission Point

- 19e. Solvent Storage Tank Vent
- 20e. Still Condenser Accumulator Vent
- 21e. Still Condenser Accumulator Vent
- 22e. Solvent Storage Tank Vent
- 23e. Solvent Storage Tank Vent
- 24e. Vacuum Jet Discharge
- 25e. Vacuum Jet Vent
- 26e.)
- 27e.)
- 28e.)
- 29e.)
- 30e.)
- 31e.)

Emergency relief device

UCC 103438