DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B430326478

FACILITY: Honeywell International (Burdick & Jackson)		**SRN / ID:** B4303
LOCATION: 1953 South Harvey Street, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Bob Brenton , Environmental, Health and Safety		**ACTIVITY DATE:** 08/07/2014
STAFF: Jenifer Dixon	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: The purpose of this inspection was to complete a scheduled inspection and to determine the facility's compliance with all applicable Air Quality Rules and Regulations, Permit No.s 554-80, 26-88, 833-91, 284-93, and Opt-out Permit No. 76-05B.		
RESOLVED COMPLAINTS:		

This was an unannounced inspection. An "Environmental Inspections" brochure was provided at the time of the inspection.

The purpose of this inspection was to complete a scheduled inspection and to determine the facility's compliance with all applicable Air Quality Rules and Regulations, Permit No.s 554-80, 26-88, 833-91, 284-93, and Opt-out Permit No. 76-05B.

JD arrived in the area of the facility at approximately 11:00AM and departed at 1:45PM. No odors or excess opacity was observed during the time before, during, or after the inspection. Mr. Jeff Halverson, Maintenance and Engineering Leader and Mr. Robert Brenton, EHS Leader, provided pertinent information regarding the facility and the operations contained therein during the time of the inspection. Mr. Brenton, provided operational and record-keeping information after the inspection via e-mail.

Honeywell is a manufacturer of high-purity solvents. The solvents are made and packaged using various chemical processes. Many of the process are permitted. The permits will be further discussed below.

Honeywell also has several processes that are exempt from Rule 201 permitting requirements under Rule 290 (limited emissions) and Rule 282(b) for boilers. The records particular to these exemptions appear to be properly kept and appear to be appropriately utilized.

PERMIT NO. 554-80

The original permit application was for six 9,990 gallon storage tanks – tanks number 11 – 16. At the time of the inspection, one of the tanks, No. 16 had been converted to a hazardous waste storage tank and re-permitted. This permit now covers only five tanks. These tanks are located in the south tank farm and currently contain the following:

Tank 11 – Methylene chloride (with vapor balancing)
Tank 12 – Ethyl acetate (with vapor balancing)
Tank 13 – Isopropyl alcohol
Tank 14 – Isopropyl alcohol
Tank 15 - Methylene chloride (with vapor balancing)

Special Conditions:
SC 10. Visible emissions from the storage tanks shall not exceed 20% opacity except as specified in Rule 301(1a) and (b).

No visible emissions were observed during the time of the inspection.

SC 11. The emission of volatile organic compounds from the storage tanks shall not exceed 135.0 pounds per hour nor 1.1 tons per year.

Based on records reviewed the emissions are well below the permitted limit. The 12-month rolling emissions for June 2104 were 143.8 pounds.

SC 12. The applicant shall not store any materials in the tanks other than those materials specified in the

permit application.

Some of the materials being stored do not match those in the original permit, however Honeywell has conducted hazard potential assessments on the new materials and shown them to be in compliance.

PERMIT NO. 26-88

The original permit application was for twelve 9,990 gallon storage tanks – tanks number 17 – 28. These tanks are located in the north tank farm and currently contain the following:

Tank 17 – Ethyl ether (with vapor balancing)
Tank 18 – Hexane
Tank 19 – Chloroform
Tank 20 – Acetonitrile (with vapor balancing)
Tank 21 - Methanol
Tank 22 – Acetone
Tank 23 – Heptane
Tank 24 – Toluene
Tank 25 – Dimethyl formamide
Tank 26 - Ethanol
Tank 27 – Acetonitrile
Tank 28 – Tetrahydrofuran

SC 14. There shall be no visible emissions from the storage tanks.

No visible emissions were observed during the time of the inspection.

SC 15. The volatile organic compounds emissions rate from the storage tanks shall not exceed 4 tons per year.

Based on records reviewed the emissions are well below the permitted limit. The 12-month rolling emissions for June 2104 were 1693.7 pounds, less than one ton.

SC 16. Applicant shall not operate the storage tanks unless the conservation vents are installed and operating properly.

Based on discussions with Mr. Brenton and Mr. Halverson, these are installed and monitored to ensure proper operation.

SC 17. The total annual shipments of each compound shall be kept on file for a period of at least two years ad made available to the Air Quality Division upon request.

This is being done as required by the permit.

SC 18. Applicant shall not store any materials other than those described in this permit application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emission of an air contaminant without prior notification to and approval by the Air Quality Division.

Some of the materials being stored do not match those in the original permit, however Honeywell has conducted hazard potential assessments on the new materials and shown them to be in compliance.

PERMIT NO. 833-91

This permit covers a bottle washing process that is equipped with ventilator and thermal oxidizer system. The cleaner being used is acetone.

SC 14. There shall be no visible emissions from the bottle washing process, equipped with a thermo-oxidizer c, hereinafter "process".

No visible emissions were observed during the time of the inspection.

SC 15. Applicant shall not operate the process unless the thermo-oxidizer is pre-heated to its operating temperature and is operating properly.

This condition was not assessed at the time of the inspection.

SC 16. The exhaust gases from the process shall be discharged unobstructed vertically upwards to the ambient air from a stack with a maximum diameter of 24 inches at an exit point not less than 40 feet above ground level.

Mr. Brenton is looking into the stack situation. There are currently three stacks associated with the equipment. The permit only lists one with specific conditions.

SC 17. The volatile organic compound (VOC) emission rate from the process shall not exceed 0.82 pounds per hour nor 3.0 tons per year.

Based on records reviewed the emissions are well below the permitted limit. The 12-month rolling emissions for June 2104 were 163.9 pounds.

SC 18. Applicant shall not store any materials other than those described in this permit application which would result in an appreciable change in the quality or any appreciable increase in the quantity of the emission of an air contaminant without prior notification to and approval by the Air Quality Division.

Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton no changes have been made.

SC 19. Applicant shall implement a preventative maintenance program for the thermo-oxidizer as recommended by the manufacturer to maintain the oxidizer's destruction efficiency. Documentation of said program shall be made available to the Air Quality Division upon request.

This is being done as required by the permit.

PERMIT NO. 284-93

This tank was originally permitted under Permit No. 554-80, but was converted to a flammable hazardous waste storage tank and re-permitted. This permit covers one 8,000 gallon storage tank with a 5 psi conservation vent. This tank is No. 16 and is located in the south tank farm.

SC 15. There shall be no visible emissions from the storage tank.

No visible emissions were observed during the time of the inspection.

PERMIT NO. 76-05B

EUBLENDING

High purity (HP) blends I and II. HP I blending occurs in the shipping containers and emissions are vented through the existing snorkel system (part of the existing packaging operations) which vents to stack 33 and the existing waste tank which is vented to stack 37. HP II will include a fixed 300 gallon mix tank that will incorporate solids, acids and bases in the mixes. HP II will vent to the existing waste tank and to the atmosphere through stack 37.

I. EMISSION LIMITS

Pollutant	Limit	Time Period /Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements

1. VOC	2.6 tpy	12-month rolling time period as determined	EUBLENDING	SC VI.1, SC VI.3, SCVI.4	R 336.1205, R 336.1225
2. Chloroform	0.77 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
3. 1,4 dioxane	0.13 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
4. methylene chloride	0.44 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
5. tetrahydrofuran	0.44 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
6. trichloroethylene	0.35 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
7. triethylamine	0.25 lb/batch	Test Protocol*	EUBLENDING	GC 13, SC VI.2, SC VI.3	R 336.1205, R 336.1225
	10 lb/month	Monthly Basis			
* Test protocol shall specify averaging time					

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. High Purity Blends	150,000 liters per year	12-month rolling time period as determined at the end of each calendar month.	HP I (shipping containers)	SC VI.1	R 336.1205(3), R 336.1225,
2. High Purity Blends	300,000 liters per year	12-month rolling time period as determined at the end of each calendar month.	HP II (300 gallon mix tank)	SC VI.1	R 336.1205(3), R 336.1225
3. Chloroform	12 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225
4. 1,4 dioxane	31 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225
5. methylene chloride	6 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225
6. tetrahydrofuran	23 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225
7. trichloroethylene	28 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225
8. triethylamine	31 batches per month	Monthly basis	EUBLENDING	SC VI.2	R 336.1205(3), R 336.1225

Material usages are kept on file and based on a records review appear to be complete. Records did not indicate any excess material usages for the rolling time period of January 2014 through June 2014.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not process more than 100 liters per batch when chloroform, 1,4-dioxane, methylene chloride, tetrahydrofuran, trichloroethylene or triethylamine is used in a batch for EUBLENDING. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1901)**

   This is being done as required by the permit

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, a record of the number of liters processed in EUBLENDING, as required by SC II.1 and II.2 on a monthly and 12 month rolling time period basis as determined at the end of each calendar month. All records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, R 336.1910)**

This is being done as required by the permit.

2. The permittee shall keep, in a satisfactory manner, the number and size (in liters) of batches processed in EUBLENDING containing chloroform, 1,4-dioxane, methylene chloride, tetrahydrofuran, trichloroethylene or triethylamine, as required by SC II.2 through 8 and SC III.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, R 336.1910)**

This is being done as required by the permit

3. The permittee shall keep records of all batches processed in EUBLENDING including the chemicals used, weights and volumes processed, and batch run times. The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1702(a))**

This is being done as required by the permit

4. The permittee shall calculate and keep records of the VOC emissions from EUBLENDING on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1901, R 336.1702(a))**

This is being done as required by the permit

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-37	1	32.5	R 336.1225
2. SV-33	6	40.4	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

EUR-3REACTOR

300 gallon batch treatment reactor operation used for processing various chemicals at the facility.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	6.0 pounds per batch	Duration of each batch.	EUR-3REACTOR	SC VI.1, SC VI.2	R 336.1702(a)
2. VOC	0.05 tpy	12-month rolling time period as determine at the end of each calendar month.	EUR-3REACTOR	SC VI.1, SC VI.2	R 336.1702(a)

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not process chloroform, dioxane, or ethylene dichloride in EUR-3REACTOR. **(R 336.1225, R 336.1901)**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, these materials are not being processed in EUR-3REACTOR.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep records of all batches processed in EUR-3REACTOR including the chemicals used, weights and volumes processed, and batch run times. The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

2. The permittee shall calculate and keep records of the VOC emissions from EUR-3REACTOR on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVR-13	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21 (c) & (d)

Based on visual observations, these dimensions appear accurate. The stacks were not hysically measured.

IX. OTHER REQUIREMENTS

NA

EUR-7REACTOR

750 gallon batch reactor operation used for processing various chemicals at the facility.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Ethylene	0.61	Test Protocol*	EUR-	GC 13,	R 336.1225

dichloride	pph		7REACTOR	SC VI.I	
2. Ethylene Dichloride	133 lbs per year	12-month rolling time period as determined at the end of each calendar month.	EUR-7REACTOR	SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
3. 1,4-dioxane	0.077 pph	Test Protocol*	EUR-7REACTOR	GC 13	R 336.1225, R 336.1901
4. 1,4-dioxane	30 lbs per year	12-month rolling time period as determined at the end of each calendar month.	EUR-7REACTOR	SC VI.3, SC VI.4	R 336.1225
5. VOC	0.38 tpy	12-month rolling time period as determined at the end of each calendar month.	EUR-7REACTOR	SC VI.3, SC VI.4	R 336.1225, R 336.1702(a)
* Test protocol shall specify averaging time					

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014. Please note that ethylene dichloride is no longer being used at the facility.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not process more than four batches per month and 30 batches per 12-month rolling time period as determined at the end of each calendar month of 1,4-dioxane in EUR-7REACTOR. **(R 336.1225)**

   Records are being kept as required although no 1,4-dioxane has been used in the last 12 month rolling time period.

2. The permittee shall not process chloroform in EUR-7REACTOR. **(R 336.1225, R 336.1901)**.

   Chloroform is not processed in EUR-7REACTOR.

3. The permittee shall not process more than 20 batches per 12-month rolling time period as determined at the end of each calendar month of ethylene dichloride in EUR-7REACTOR. **(R 336.1225, R 336.1702 (a))**

   No ethylene dichloride was processed in EUR-7REACTOR in the most recent 12 month rolling time period. This material is no longer being used at the facility.

4. The permittee shall not process 1,4-dioxane in EUR-7REACTOR unless a residual vacuum charging method is applied such that no emissions of 1,4-dioxane are released during charging. **(R 336.1225, R 336.1702(a))**

   Based on discussions with Mr. Brenton, this is being done as needed.

5. The permittee shall install, maintain, and operate in a satisfactory manner a vapor balance system for any drums used for transfers from the reactor during the processing of ethylene dichloride. The vapor balance system shall include the following:

a. The transfer of liquid to the drum(s) shall be carried out during reactor vessel draining so as to prevent emissions of returned vapor from the reactor vessel during the transfer process.

b. A vapor tight collection line on any drum used that includes a device to insure that the vapor collection line shall close upon disconnection so as to prevent the release of organic vapors.

c. A device or procedure to accomplish complete drainage before the liquid line is disconnected, or a device or procedure to prevent liquid drainage from the liquid line when not in use. **(R 336.1225, R 336.1702(a), R 336.1910)**.

Based on discussions with Mr. Brenton as well as visual observations during the inspection, this is being done as needed.

6. The liquid charging/transfer rates to EUR-7REACTOR for processing steps used during ethylene dichloride processing, when the process is venting, shall not exceed an hourly average of 3.0 gallons per minute nor a total of 180 gallons for each hour of operation. **(R 336.1225)**

No ethylene dichloride was processed in EUR-7REACTOR in the most recent 12 month rolling time period. This material is no longer being used at the facility.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, monthly records of the gallons of ethylene dichloride charged or transferred for each hour of operation for each batch processed for EUR-7REACTOR, as required by SC IV.6. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1225)**

No ethylene dichloride was processed in EUR-7REACTOR in the most recent 12 month rolling time period. This material is no longer being used at the facility.

2. The permittee shall keep records of the number of batches of ethylene dichloride and 1,4-dioxane processed in EUR-7REACTOR on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1225)**

This is being done as required by the permit condition.

3. The permittee shall keep records of all batches processed in EUR-7REACTOR including the chemicals used, weights and volumes, and process batch run times. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

Based on records reviewed, this material is not being used in EUR-7REACTOR.

4. The permittee shall calculate and keep records of the VOC, ethylene dichloride, and 1,4-dioxane emissions from EUR-7REACTOR on a monthly basis and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

This is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVR-7	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21(c)& (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

EUR-8REACTOR

1000 gallon batch reactor operation used for processing various chemicals at the facility.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	18.7 pph	Duration of each batch.	EUR-8REACTOR	SC 11.3, SC 11.4	R 336.1702(a)
2. VOC	0.50 tpy	12-month rolling time period as determined at the end of each calendar month.	EUR-8REACTOR	SC 11.3, SC 11.4	R 336.1702(a)

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not process chloroform, dioxane, or ethylene dichloride in EUR-8REACTOR. **(R 336.1225, R 336.1901)**

   Based on records reviewed, these materials are not being used in EUR-8REACTOR.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING
Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING
Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep records of all batches processed in EUR-8REACTOR including the chemicals used, weights and volumes processed, and batch run times. The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

2. The permittee shall calculate and keep records of the VOC emissions from EUR-8REACTOR on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVR-9	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

EUR-9REACTOR

750 gallon batch reactor operation used for processing various chemicals at the facility.

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. 1,4-dioxane	30 lbs per year	12-month rolling time period as determined at the end of each calendar month.	EUR-9REACTOR	SC III.1, SC VI.1, SC VI.2, SC VI.3	R 336.1225

2. 1,4-dioxane	0.077 pph	Test Protocol*	EUR-9REACTOR	GC 13	R 336.1225, R 336.1901
3. VOC	0.38 tpy	12-month rolling time period as determined at the end of each calendar month.	EUR-9REACTOR	SC 12.5, SC 12.6	R 336.1225, R 336.1702(a)

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall not process more than four batches per month and 30 batches per 12-month rolling time period as determined at the end of each calendar month of 1,4-dioxane in EUR-9REACTOR. **(R 336.1225)**

   Based on records reviewed, the facility is in compliance with this condition.

2. The permittee shall not process 1,4-dioxane in EUR-9REACTOR unless a residual vacuum charging method is applied such that no emissions of 1,4-dioxane are released during charging. **(R 336.1225,R 336.1702(a))**

   Based on discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

3. The permittee shall not process chloroform or ethylene dichloride in EUR-9REACTOR. **(R 336.1225, R 336.1901)**

   Based on records reviewed, the facility is in compliance with this condition.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep records of the number of batches of 1,4-dioxane processed in EUR-9REACTOR on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1225)**

   Based on records reviewed, the facility is in compliance with this condition.

2. The permittee shall keep records of all batches processed in EUR-9REACTOR including the chemicals used, weights and volumes, and process batch run times. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R336.1225, R 336.1702(a))**

   Based on records reviewed, the facility is in compliance with this condition.

3. The permittee shall calculate and keep records of the VOC and 1,4-dioxane emissions from EUR-9REACTOR on a monthly basis and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

Based on records reviewed, the facility is in compliance with this condition.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVR-8	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21(c)& (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

FGPACKAGING

Eight packaging areas where liquid products are charged into product containers.

Emission Units: EUBR1, EUBR2, EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3, EUMETERS

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Chloroform	0.38 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
2. 1, 4-Dioxane	0.06 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
3. Ethylene Dichloride	0.14 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
4. Methylene Chloride	0.66 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
5. Tetrahydrofuran	0.21 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
6. Pyridine	0.03 pph	Test Protocol*	EUBR1, EUBR2	GC 13	R 336.1225, R 336.1901
7. Chloroform	2.00 pph	Test Protocol*	EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3, EUMETERS	GC 13	R 336.1225, R 336.1901
8. 1, 4-Dioxane	0.33 pph	Test Protocol*	EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3	GC 13	R 336.1225, R 336.1901
9. Ethylene Dichloride	0.14 pph	Test Protocol*	EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3	GC 13	R 336.1225, R 336.1901
10. Methylene	3.50 pph	Test Protocol*	EUBR3, EUCRET,	GC 13	R 336.1225,

Chloride			EUCRWHS, EUPRR5, EUPRR3		R 336.1901
11. Tetrahydrofuran	1.13 pph	Test Protocol*	EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3, EUMETERS	GC 13	R 336.1225, R 336.1901
12. Pyridine	0.14 pph	Test Protocol*	EUBR3, EUCRET, EUCRWHS, EUPRR5, EUPRR3	GC 13	R 336.1225, R 336.1901
13. Methylene Chloride	3.78 pph	Test Protocol*	EUMETERS	GC 13	R 336.1225, R 336.1901
14.VOC plus methylene chloride#	20.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGPACKAGING	SC VI.1, SC VI.2 SC VI.3	R 336.1702(a), R 336.1224
15. Chloroform	7,567 pounds per year	12-month rolling time period as determined at the end of each calendar month.	FGPACKAGING	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
16. 1, 4-Dioxane	1,554 pounds per year	12-month rolling time period as determined at the end of each calendar month.	FGPACKAGING	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
17. Ethylene Dichloride	614 pounds per year	12-month rolling time period as determined at the end of each calendar month.	FGPACKAGING	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
18. Methylene Chloride	Less than 18,000 pounds per year	12-month rolling time period as determined at the end of each calendar month.	FGPACKAGING	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
19. Tetrahydrofuran	375 pounds per year	12-month rolling time period as determined at the end of each calendar month.	EUBR1 and EUBR2 Combined	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
20. Tetrahydrofuran	3,958 pounds per year	12-month rolling time period as determined at the end of each calendar month.	EUBR3, EUPRR5, EUPRR3, and EUMETERS Combined	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
21. Tetrahydrofuran	1,979 pounds per year	12-month rolling time period as determined at the end of each calendar month.	EUCRET and EUCRWHS Combined	SC VI.1, SC VI.2, SC VI.3, SC VI.4	R 336.1225, R 336.1227(2), R 336.1901
22. Tetrahydrofuran	17.29 lbs/day	Calendar Day	FGPACKAGING	SC V.1, SC VI.1, SC VI.2, SC VI.5	R 336.1225, R 336.1227(2), R 336.1901
23. Pyridine	1.75 lbs/day	Calendar Day	FGPACKAGING	SC V.1, SC VI.1, SC VI.2, SC VI.5	R 336.1225, R 336.1227(2), R 336.1901
* Test protocol shall specify averaging time # Methylene chloride is a non-VOC compound per Rule 122(f)(liv).					

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The following products shall not be packaged in EUMETERS: 1,4-dioxane, ethylene dichloride and pyridine. **(R 336.1225)**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

2. No chemicals shall be packaged in EUBR1 or EUBR2 in containers larger than 20 liters. **(R 336.1225)**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

3. The permittee shall not package decahydronaphthalene or trichloroethylene in FGPACKAGING. **(R 336.1225)**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

4. All waste materials from FGPACKAGING shall be captured and stored in closed containers and shall be disposed of in an acceptable manner in compliance with all applicable rules and regulations. **(R 336.1224, R 336.1702(a))**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

5. The permittee shall not package ethylene dichloride in containers larger than 20 liters. **(R 336.1225)**

   Based on records reviewed and discussions with Mr. Halverson and Mr. Brenton, the facility is in compliance with this condition.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The HAP content of any material as received and as applied, shall be determined using manufacturer's formulation data. Upon request of the AQD District Supervisor, the manufacturer's HAP formulation data shall be verified using EPA Test Method 311. **(R 336.1205(3))**

   This is being done at required by the permit condition.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the end of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1224, R 336.1225, R 336.1299, R 336.1702, R 336.1901)**

   This is being done at required by the permit condition.

2. The permittee shall maintain a current listing of the chemical identity of each material packaged in FGPACKAGING. All records shall be kept on file and made available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1299, R 336.1702, R 336.1901)**

   This is being done at required by the permit condition.

3. The permittee shall keep the following information on a calendar month basis for FGPACKAGING:

   a. Identification of and volume (Gallons) of each material packaged.

   b. Vapor pressure and molecular weight for each material packaged in FGPACKAGING, and container size range used for each material packaged for each emission unit.

   c. VOC plus methylene chloride mass emission calculations determining the monthly emission rate in

tons per calendar month.

d. VOC plus methylene chloride mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1224, R 336.1702)**

This is being done at required by the permit condition.

4. The permittee shall keep the following records on a calendar month basis for FGPACKAGING:

a. Gallons of Chloroform, 1, 4-Dioxane, Ethylene Dichloride, Methylene Chloride, and Tetrahydrofuran packaged per calendar month.

b. Chloroform, 1,4-Dioxane, Ethylene Dichloride, Methylene Chloride, and Tetrahydrofuran (for the emission unit groupings specified in SC 26.1) mass emission calculations determining the monthly emission rate of each in pounds per calendar month.

c. Chloroform, 1, 4-Dioxane, Ethylene Dichloride, Methylene Chloride, and Tetrahydrofuran (for each emission unit listed in SC I.xx through I.xx), mass emission calculations determining the annual emission rate in pounds per 12-month rolling time period as determined at the end of each calendar month.

The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901)**

This is being done as required by the permit.

5. The permittee shall keep the following records on a calendar day basis for FGPACKAGING:

a. Gallons of tetrahydrofuran and pyridine packaged per each calendar day of the month.

b. Tetrahydrofuran and pyridine mass emission calculations determining the calendar day emission rate of each in pounds per calendar day for each calendar day of the month.

The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901)**

This is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-29	6	33.9	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
2. SV-30	6	33.9	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
3. SV31	6	42.4	R 336.1225, R 336.1901,

			40 CFR 52.21(c) & (d)
4. SV-32	6	40.4	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
5. SV-33	6	40.4	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
6. SV-34	6	43.8	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
7. SV-35	6	39.9	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
8. SV-36	5	43.9	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

FGSTILLS

Ten various size batch distillation units used for processing various chemicals at the facility.

Emission Units: EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-8STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL, EUS-12STILL, EUS-13STILL, EUS-14STILL

POLLUTION CONTROL EQUIPMENT: Condensers associated with various stills

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	1.0 tpy (per still listed under equipment)	12-month rolling time period as determined at the end of each calendar month.	EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL	SC VI.1, SC VI.2	R 336.1702(a)
2. VOC	1.83 tpy	12-month rolling time period as determined at the end of each calendar month.	EUS-10STILL	SC VI.1, SC VI.2	R 336.1702(a)
3. VOC	0.8 tpy	12-month rolling time period as determined at the end of each calendar month.	EUS-11STILL	SC VI.1, SC VI.2	R 336.1702(a)
4. VOC	3.5 tpy	12-month rolling time period as determined at the end of each calendar month.	EUS-12STILL	SC VI.1, SC VI.2	R 336.1702(a)
5. 1,4-dioxane	0.86 lb per batch	Batch duration	EUS-8STILL	SC VI.5, SC VI.6	R 336.1702(a), R 336.1901
6. 1,4-dioxane	0.347 pph	Test Protocol*	EUS-8STILL	GC 13	R 336.1225, R 336.1901
7. 1,4-dioxane	304 lb per year	12-month rolling time period as determined at the end of each calendar month.	EUS-8STILL	SC VI.5, SC VI.6	R 336.1225, R 336.1227(2), R 336.1901
8. VOC	1.5 tpy	12-month rolling time period as determined at the end of each calendar month.	EUS-8STILL	SC VI.5, SC VI.6	R 336.1702(a)
9. Chloroform	3.46 lbs per batch	Batch duration	EUS-8STILL	SC VI.5, SC VI.6	R 336.1702(a), R 336.1901
10. Chloroform	1.61pph	Test Protocol*	EUS-8STILL	GC 13	R 336.1225, R 336.1901
11. Chloroform	1,414 lbs per	12-month rolling time	EUS-8STILL	SC VI.5,	R 336.1225,

	year	period as determined at the end of each calendar month.		SC VI.6	R 336.1227(2), R 336.1901
12. Methylene chloride	195,000 milligrams per cubic meter, corrected to 70°F and 29.92 inches Hg	Test Protocol*	EUS-13STILL	GC 13, SC VI.8	R 336.1901
13. Methylene chloride	6.9 lbs per batch	Duration of batch	EUS-13STILL	SC VI.8, SC VI.9, SC VI.10	R 336.1901
14. Chloroform	2.5 lbs per batch	Duration of batch	EUS-13STILL	SC VI.8, SC VI.9 SC VI.10, SC VI.11	R 336.1225
15. Chloroform	0.98 lb per hour	Test Protocol*	EUS-13STILL	GC 13, SC VI.8	R 336.1225
16. Chloroform	858.5 lbs per year	12-month rolling time period as determined at the end of each calendar month.	EUS-13STILL	SC VI.8, SC VI.9, SC VI 10, SC VI.11	R 336.1225, R 336.1227(2), R 336.1901
17. VOC (excluding methylene chloride)	12.4 lbs per batch	Duration of batch	EUS-13STILL	SC VI.8, SC VI.9, SC VI.10	R 336.1702(a)
18. Methylene chloride	195,000 milligrams per cubic meter, corrected to 70°F and 29.92 inches Hg	Test Protocol*	EUS-14STILL	GC 13, SC VI.12, SC VI.13, SC VI.14	R 336.1901
19. Methylene chloride	6.9 lbs per batch	Duration of batch	EUS-14STILL	SC VI.12, SC VI.13, SC VI.14	R 336.1901
20. VOC (excluding methylene chloride)	12.4 lbs per batch	Duration of batch	EUS-14STILL	SC VI.12, SC VI.13, SC VI.14	R 336.1702(a)
* Test protocol shall specify averaging time					

Emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL and EUS-12STILL shall not be used to process any compounds other than those listed in permits covering all distillation units at the Muskegon plant unless a permit revision for such other compounds has been approved by the Air Quality Division. Changes in product mix from one distillation unit to another will not require permit revisions. However, the solvents benzene, carbon tetrachloride, chloroform, 1,4-dioxane, ethylene dichloride, and methylene chloride shall not be processed in EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL and EUS-12STILL unless they later become approved by the Air Quality Division for processing in each of the stills. **(R 336.1225, R 336.1901, R**

336.1702 (a))

These restrictions are being met as required by the permit.

2. The solvents benzene, carbon tetrachloride, and ethylene dichloride shall not be processed in EUS-8STILL without prior approval of a Permit to Install authorizing such processing. **(R 336.1201, R 336.1225, R 336.1702(a), R 336.1901)**

These restrictions are being as required by the permit.

3. The permittee shall not process any compounds in the EUS-13STILL other then those listed in permits covering all distillation units at the facility except that benzene, carbon tetrachloride, 1,4-dioxane, and ethylene dichloride shall not be processed in the EUS-13STILL. **(R336.1225, R 336.1702(a), R 336.1901)**

These restrictions are being as required by the permit.

4. The permittee shall not process any compounds in the EUS-14STILL other then those listed in permits covering all distillation units at the facility except that benzene, chloroform, carbon tetrachloride, 1,4-dioxane and ethylene dichloride shall not be processed in the EUS-14STILL. **(R 336.1225, R 336.1702 (a), R 336.1901)**

These restrictions are being as required by the permit.

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL and EUS-12STILL unless the associated temperature indicators on the still pot, fractionation column, and reflux splitter, and the associated pressure indicator on the still pot are installed and operating properly. **(R 336.1225, R 336.1901, R 336.1702(a))**

This is being done as required by the permit.

2. The VOC emissions from EUS-8STILL, when processing chloroform, and 1,4-dioxane shall be vented through a properly operated secondary condenser (mechanical refrigeration unit), then collected in a 3,000 gallon holding tank and discharged unobstructed vertically upwards to the ambient air at a rate of 2,280 actual cubic feet per minute from a stack with a maximum diameter of 6.0 inches at an exit point not less than 40.5 feet above ground level (SVS-17a). **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

Based on discussions with Mr. Halverson and Mr. Brenton, this unit is being operated as required in the permit.

3. The permittee shall not operate EUS-8STILL, when processing chloroform and 1,4-dioxane, unless the secondary condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the secondary condenser exhaust gas temperature at 0°C or less for chloroform and 10°C or less for 1,4-dioxane, when venting through the secondary condenser. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

Based on discussions with Mr. Halverson and Mr. Brenton, this unit is being operated as required in the permit

4. The permittee shall not operate the EUS-13STILL unless the secondary condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the secondary condenser exhaust gas temperature at -30°C or less, when venting through the secondary condenser. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

Based on discussions with Mr. Halverson and Mr. Brenton, this unit is being operated as required in the

permit

5. The permittee shall not operate the EUS-14STILL unless the secondary condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the secondary condenser exhaust gas temperature at -25°C or less, when venting through the secondary condenser. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

   Based on discussions with Mr. Halverson and Mr. Brenton, this unit is being operated as required in the permit

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep records of all batches processed in EUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL and EUS-12STILL including the chemicals used, weights and volumes processed, and batch run times. The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

2. The permittee shall calculate and keep records of the VOC emissions fromEUS-5STILL, EUS-6STILL, EUS-7STILL, EUS-9STILL, EUS-10STILL, EUS-11STILL and EUS-12STILL on a monthly and 12-month rolling time period basis as determined at the end of each calendar month. The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1901, R 336.1702(a))**

   This is being done as required by the permit.

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor the temperature of the secondary condenser exhaust gas on a continuous basis for EUS-8STILL, when venting through the secondary condenser. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

   Based on observations made at the time of the inspection, this permit condition is being met.

4. The permittee shall, at least once per batch, record the secondary condenser exhaust gas temperature when EUS-8STILL is venting through the secondary condenser. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

   Based on observations made at the time of the inspection, this permit condition is being met.

5. The permittee shall keep records of all batches processed in EUS-8STILL including the chemicals used, weights and volumes, and process batch run times. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1205(3), R 336.1225)**

   This is being done as required by the permit.

6. The permittee shall calculate and keep records of the VOC, 1,4-dioxane, and chloroform emissions from EUS-8STILL on a batch (with still nitrogen sweeps for vessel agitation or cooling to be accounted for by proration over all batches run for the month), monthly, and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep these records on file and shall make them available to the Department upon request. **(R 336.1205(3), R 336.1225)**

This is being done as required by the permit.

7. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor the temperature of the secondary condenser exhaust gas on a continuous basis for EUS-13STILL, when venting through the secondary condenser. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

   Based on observations made at the time of the inspection, this permit condition is being met.

8. The permittee shall, at least once per batch, record the secondary condenser exhaust gas temperature when EUS-13STILL is venting through the secondary condenser. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

   Based on observations made at the time of the inspection, this permit condition is being met.

9. The permittee shall keep current calculations showing the methylene chloride, chloroform, and VOC (excluding methylene chloride) emission rates per batch from EUS-13STILL. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**

   This is being done as required by the permit.

10. The permittee shall keep records indicating the number of batches per year of each of the solventsprocessed in the EUS-13STILL. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R336.1702(a), R 336.1901)**

    This is being done as required by the permit.

11. The permittee shall keep the following information on a calendar month basis for EUS-13STILL:

    a. Gallons of Chloroform processed per calendar month.
    b. Chloroform mass emission calculations determining the monthly emission rate in tons per calendar month.
    c. Chloroform mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

    The records shall be kept in a format acceptable to the AQD District Supervisor and using calculation methods acceptable to the AQD District Supervisor. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1901)**

    This is being done as required by the permit.

12. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor the temperature of the secondary condenser exhaust gas on a continuous basis for EUS-14STILL. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

    Based on observations made at the time of the inspection, this permit condition is being met.

13. The permittee shall, at least once per batch, record the secondary condenser exhaust gas temperature. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

    Based on observations made at the time of the inspection, this permit condition is being met.

14. The permittee shall keep current calculations showing the methylene chloride and VOC (excluding methylene chloride) emission rates per batch. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**

This is being done as required by the permit.

15. The permittee shall keep records indicating the number of batches per year of each of the solventsprocessed in the EUS-14STILL. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**

This is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVS-12		29	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
2. SVS-14	NA	29	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
3. SVS-15	NA	29	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
4. SVS-18	NA	29	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
5. SVS-22	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
6. SVS-21	1	29.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
7. SVS-5	1.5	30	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
8. SVS-17a	6	40.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
9. SVS-17b	1	29.0	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
10. SVS-2	2	40.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
11. SVS-3	2	40.5	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)

Based on visual observations, these dimensions appear accurate. The stacks were not physically measured.

IX. OTHER REQUIREMENTS

NA

FGFACILITY

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.1, SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined	FGFACILITY	SC VI.1, SC VI.2	R 336.1205(3)

		at the end of each calendar month.			
3. VOC	Less than 89.0 tpy	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2, SC VI.3	R 336.1205(3)

HAP and VOC emissions from pollutants that are required to be calculated are kept on file and based on a records review appear to be complete. Records did not indicate any excess emissions for the rolling time period of January 2014 through June 2014.The aggregate HAP emissions for the June 2014 12-month rolling time period were 2.57 tons with the highest emitting HAP being methanol at 0.7 tons for the same time period. VOC emissions were reported as 4.4 tons. These are well below the permitted limit.

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	40,000,000 liters per year	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)
2. HAP limits: Level 1: acetonitrile methanol methylene chloride	5,000,000 liters per year for each chemical in this level	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)
3. HAP limits: Level 2: Hexane Toluene	2,000,000 liters per year for each chemical in this level	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)
4. HAP limits: Level 3: All other HAPs	400,000 liters per year for each chemical in this level	12-month rolling time period as determined at the end of each calendar month.	FGFACILITY	SC VI.2	R 336.1205(3)

Materials that are required to be tracked are kept on file and based on a records review appear to be complete. Records did not indicate any excess material usages for the rolling time period of January 2014 through June 2014.

III. PROCESS/OPERATIONAL RESTRICTIONS

1. All waste materials from FGFACILITY shall be captured and stored in closed containers and shall be disposed of in an acceptable manner in compliance with all applicable rules and regulations. **(R 336.1224, R 336.1702(a))**

   Based on observations made at the time of the inspection, this is being done as required by the permit condition.

IV. DESIGN/EQUIPMENT PARAMETERS

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The HAP content of any material as received and as applied, shall be determined using manufacturer's formulation data. Upon request of the AQD District Supervisor, the manufacturer's HAP formulation data shall be verified using EPA Test Method 311. **(R 336.1205(3))**

   This is being done as required by the permit condition.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall keep, in a satisfactory manner, individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month, as required by SC I.1 and I.2. For the first month following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

   Based on a records review, this is being done as required by the permit.

2. The permittee shall keep the following information on a monthly and 12-month rolling time period basis for FGFACILITY:

   a. Liters, gallons or pounds of each HAP and VOC containing material used.

   b. Where applicable, liters, gallons or pounds of each HAP and VOC containing material reclaimed.

   c. HAP and VOC content, in pounds per liter, pounds per gallon or pounds per pound, of each HAP and VOC containing material used.

   The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file at the facility and made available to the Department upon request. **(R 336.1205(3))**

   Based on a records review, this is being done as required by the permit.

3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC emission calculation records for FGFACILITY, as required by SC I.3. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(3))**

   Based on a records review, this is being done as required by the permit.

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

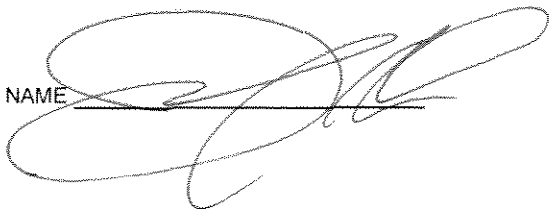
1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 63, Subpart VVVVVV, as they apply to EUBLENDING. **(40 CFR Part 63, Subparts A and VVVVVV)**

   Based on a records review as well as discussions with Mr. Halverson and Mr. Brenton, this is being done as required by the permit.

NOTE: Records used to determine compliance are attached to this report.

CONCLUSION

Based on the observations at the time of inspection, Honeywell appears to be in compliance with Permit No.'s 554-80, 26-88, 833-91, 284-93, and Opt-out Permit No. 76-05B and all other applicable Air Quality Rules and Regulations. Mr. Brenton will look into the stacks on the thermal oxidizer and an additional report will be written if necessary. No further action is necessary at this time.

NAME  DATE 9/3/14 SUPERVISOR PAB