MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

September 19, 2024

PERMIT TO INSTALL
155-13A

ISSUED TO
Sun Chemical Corporation

LOCATED AT
4925 Evanston Avenue
Muskegon, Michigan 49442

IN THE COUNTY OF
Muskegon

STATE REGISTRATION NUMBER
B5966

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **August 22, 2024**	
DATE PERMIT TO INSTALL APPROVED: **September 19, 2024**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Strike03T401	The pigment manufacturing process, including the following equipment: Strike tank 03T401 – controlled by caustic scrubber (ID # 03S7110) Feed Tank Group A – controlled by caustic scrubber (ID # 03S7010) 03T200 – Sulfate 03T201 – Miscellaneous 03T202 – Solution 03T204 – Acetic 03T205 – Sodium Nitrite 03T206 – Hydrochloric Acid 03T207 – Caustic 03T209 – Calcium 03T215 – Sodium Nitrite (Quick Drop) 03T216 – Hydrochloric Acid (Quick Drop) 03T217 – Caustic 03T227 – Dilute Caustic 03T235 – Sodium Nitrite 03T301 – Rosin 03T302 – Amine / Tobias Acid Dissolver (as needed) – controlled by absolute filter (ID # 03F3020) 03T311 – Coupler	FG-AZO

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Strike03T411	The pigment manufacturing process, including the following equipment: Strike tank 03T411 – controlled by caustic scrubber (ID # 03S7110) Feed Tank Group B – controlled by caustic scrubber (ID # 03S7010) 03T200 – Sulfate 03T201 – Miscellaneous 03T202 – Solution 03T204 – Acetic 03T205 – Sodium Nitrite 03T206 – Hydrochloric Acid 03T207 – Caustic 03T209 – Calcium 03T217 – Caustic 03T225 – Sodium Nitrite (Quick Drop) 03T226 – Hydrochloric Acid (Quick Drop) 03T227 – Dilute Caustic 03T235 – Sodium Nitrite 03T301 – Rosin 03T302 – Amine / Tobias Acid Dissolver (as needed) – controlled by absolute filter (ID # 03F3020) 03T311 – Coupler	FG-AZO
EU-Strike03T402	The pigment manufacturing process, including the following equipment: Strike tank 03T402 – controlled by caustic scrubber (ID # 03S7110) Feed Tank Group C – controlled by caustic scrubber (ID # 03S7010) 03T200 – Sulfate 03T205 – Sodium Nitrite 03T206 – Hydrochloric Acid 03T207 – Caustic 03T211 – Rosin 03T212 – Solution 03T214 – Acetic 03T217 – Caustic 03T221 – Dilute Caustic 03T222 – Dilute Acetic 03T232 – Miscellaneous 03T233 – Amine 03T235 – Sodium Nitrite 03T236 – Hydrochloric Acid 03T312 – Tetrazo 03T321 – Arylide	FG-AZO

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Strike03T412	The pigment manufacturing process, including the following equipment: Strike tank 03T412 – controlled by caustic scrubber (ID # 03S7110) Feed Tank Group C – controlled by caustic scrubber (ID # 03S7010) 03T200 – Sulfate 03T205 – Sodium Nitrite 03T206 – Hydrochloric Acid 03T207 – Caustic 03T211 – Rosin 03T212 – Solution 03T214 – Acetic 03T217 – Caustic 03T221 – Dilute Caustic 03T222 – Dilute Acetic 03T232 – Miscellaneous 03T233 – Amine 03T235 – Sodium Nitrite 03T236 – Hydrochloric Acid 03T312 – Tetrazo 03T321 – Arylide	FG-AZO
EU-RsnCrusher	Rosin Crusher – controlled by caustic scrubber (ID # 03S7010).	FG-AZO
EU-RedSlryTnk	03T901 - Red Slurry Hold Tank – controlled by caustic scrubber (ID # 03S7110).	FG-AZO
EU-Weigh01	The pigment manufacturing process, including the following equipment: Materials Weigh-Up Station – controlled by a coarse filter (ID # 02F7010) and caustic scrubber (ID # 02S7010)	FG-MAIN
EU-Weigh02	The pigment manufacturing process, including the following equipment: Materials Weigh-Up Station – controlled by an absolute filter (ID # 03F3020) and caustic scrubber (ID # 03S7010)	FG-AZO
EU-Weigh03	The pigment manufacturing process, including the following equipment: Materials Weigh-Up Station – controlled by a coarse filter (ID # 02F7010) and caustic scrubber (ID # 02S7010)	FG-MAIN

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Strike01T401	The pigment manufacturing process, including the following equipment: Strike tank 01T401 – controlled by caustic scrubber (ID # 02S7110) Feed Tank Group D – controlled by caustic scrubber (ID # 02S7010) 01T201 – Miscellaneous 01T202 – Dilute Caustic 01T203 – Miscellaneous 01T204 – Acetic 01T206 – Hydrochloric Acid 01T212 – Dilute Acetic 01T213 – Miscellaneous 01T214 – Acetic 01T301 – Arylide 01T302 – Tetrazo or Diazo 01T304 – Tetrazo or Diazo 01T304A – Pre-Coat Tank (SuperCell) 01T311 – Arylide	FG-MAIN
EU-Strike01T411	The pigment manufacturing process, including the following equipment: Strike tank 01T411 – controlled by caustic scrubber (ID # 02S7110) Feed Tank Group D – controlled by caustic scrubber (ID # 02S7010) 01T201 – Miscellaneous 01T202 – Dilute Caustic 01T203 – Miscellaneous 01T204 – Acetic 01T206 – Hydrochloric Acid 01T212 – Dilute Acetic 01T213 – Miscellaneous 01T214 – Acetic 01T301 – Arylide 01T302 – Tetrazo or Diazo 01T304 – Tetrazo or Diazo 01T304A – Pre-Coat Tank (SuperCell) 01T311 – Arylide	FG-MAIN

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Strike01T421	The pigment manufacturing process, including the following equipment: Strike tank 01T421 – controlled by caustic scrubber (ID # 02S7110) Feed Tank Group D – controlled by caustic scrubber (ID # 02S7010) 01T201 – Miscellaneous 01T202 – Dilute Caustic 01T203 – Miscellaneous 01T204 – Acetic 01T206 – Hydrochloric Acid 01T212 – Dilute Acetic 01T213 – Miscellaneous 01T214 – Acetic 01T301 – Arylide 01T302 – Tetrazo or Diazo 01T304 – Tetrazo or Diazo 01T304A – Pre-Coat Tank (SuperCell) 01T311 – Arylide	FG-MAIN
EU-Strike02T401	The pigment manufacturing process, including the following equipment: Strike tank 02T401 – controlled by caustic scrubber (ID # 02S7110) Feed Tank Group E – controlled by caustic scrubber (ID # 02S7010) and coarse filter (ID # 02F7010) 02T201 – Slurry Rework 02T202 – Rosin 02T203 – Miscellaneous 02T206 – Hydrochloric Acid 02T207 – Caustic 02T301 – Coupler 02T302 – Amine / Tobias Acid Dissolver (as needed) controlled by absolute filter (ID # 02AF3020) 02T315 – Sodium Nitrite	FG-MAIN
EU-Strike02T411	The pigment manufacturing process, including the following equipment: Strike tank 02T411 – controlled by caustic scrubber (ID # 02S7110) Feed Tank Group E – controlled by caustic scrubber (ID # 02S7010) and coarse filter (ID # 02F7010) 02T201 – Slurry Rework 02T202 – Rosin 02T203 – Miscellaneous 02T206 – Hydrochloric Acid 02T207 – Caustic 02T301 – Coupler 02T302 – Amine / Tobias Acid Dissolver (as needed) controlled by absolute filter (ID # 02AF3020) 02T315 – Sodium Nitrite	FG-MAIN

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Flexible Group ID
EU-Tank05T104N	Storage tank in the tank farm used to store 56% acetic acid, with nominal capacity of 10,000 gallons – controlled by caustic scrubber (ID # 05S7010)	FG-MAIN
EU-Tank05T104S	Storage tank in the tank farm used to store 56% acetic acid, with nominal capacity of 10,000 gallons – controlled by caustic scrubber (ID # 05S7010)	FG-MAIN
EU-Tank05T106	Storage tank in the tank farm used to store hydrochloric acid, with nominal capacity of 10,000 gallons – controlled by caustic scrubber (ID # 05S7010)	FG-MAIN
EU-Tank05T116	Storage tank in the tank farm used to store hydrochloric acid, with nominal capacity of 10,000 gallons – controlled by caustic scrubber (ID # 05S7010)	FG-MAIN

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-AZO	The AZO pigment manufacturing process, including associated tanks and other equipment servicing red & yellow pigment processing and strike tanks.	EU-Strike03T401, EU-Strike03T411, EU-Strike03T402, EU-Strike03T412, EU-RsnCrusher, EU-RedSlryTnk, EU-Weigh02
FG-MAIN	The MAIN pigment manufacturing process, including associated tanks and other equipment servicing red & yellow pigment processing and strike tanks.	EU-Weigh01, EU-Weigh03, EU-Strike01T401, EU-Strike01T411, EU-Strike01T421, EU-Strike02T401, EU-Strike02T411, EU-Tank05T104N, EU-Tank05T104S, EU-Tank05T106, EU-Tank05T116

FG-AZO
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

The AZO pigment manufacturing process, including associated tanks and other equipment servicing red & yellow pigment processing and strike tanks.

Emission Unit: EU-Strike03T401, EU-Strike03T411, EU-Strike03T402, EU-Strike03T412, EU-Weigh02, EU-RsnCrusher, EU-RedSlryTnk

POLLUTION CONTROL EQUIPMENT

Absolute Filter ID #:03F3020, Caustic Scrubber ID #s:03S7010, 03S7110

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.10 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis	Hourly	Equipment in FG-AZO exhausting to SV-Stack01	GC 13	R 336.1331
2. Beta-naphthylamine (BNA)	0.33 µg/m^3 [A, 1]	Hourly	Equipment in FG-AZO exhausting to SV-Stack01	GC 13	R 336.1225
3. Hydrogen chloride (HCl)	3.88 µg/m^3 [A, 1]	Hourly	Equipment in FG-AZO exhausting to SV-Stack01	GC 13	R 336.1225
4. Hydrogen chloride (HCl)	0.52 µg/m^3 [A, 1]	Hourly	Equipment in FG-AZO exhausting to SV-Stack02	GC 13	R 336.1225
5. Visible Emissions	0% opacity [B]	6-minute average	Equipment in FG-AZO exhausting to SV-Stack01 and SV-Stack02	SC VI.3	R 336.1301

[A] Corrected to 70 degrees F and 29.92 inches Hg
[B] Except for uncombined water vapor

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Red Pigment	12,500,000 lbs pigment processed through the strike tanks per year	12-month rolling time period as determined at the end of each calendar month	FG-AZO	SC VI.2	R 336.1224, R 336.1702(a)
2. Yellow Pigment	18,500,000 lbs pigment processed through the strike tanks per year	12-month rolling time period as determined at the end of each calendar month	FG-AZO	SC VI.3	R 336.1224, R 336.1702(a)

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
3. BNA content of tobias acid used	0.1% by weight [1]	Instantaneous	FG-AZO	SC V.2	R 336.1224, R 336.1225

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Whenever the 3,3'-dichlorobenzidine (DCB) content for any batch of diarylide yellow product exceeds 0.5% by weight, the permittee shall immediately shutdown all process equipment used in producing yellow toner. Operation of this equipment shall not recommence unless approval has been granted by the Air Quality Division. Such approval shall be granted only if the applicant has demonstrated to the satisfaction of the Air Quality Division that the cause of this occurrence has been identified and that processes have been implemented to prevent any such further occurrence.[1] **(R 336.1224, R 336.1225)**

2. The permittee shall dispose of empty tobias acid bags and empty color containers by placing them into a container inside the building before ultimate disposal.[1] **(R 336.1224, R 336.1225)**

3. The permittee shall not operate FG-AZO unless an amended malfunction abatement plan (MAP) as described in Rule 911(2), for FG-AZO, has been submitted within 60 days of permit issuance, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 45 days of submittal, the amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall equip and maintain each scrubber in FG-AZO with a liquid flow indicator and a malfunction alarm system. **(R 336.1910)**

2. The permittee shall equip and maintain absolute filter (ID # 03F3020) with a pressure sensor with an audio alarm that sounds when the pressure drop is outside of the range specified in the MAP. **(R 336.1910)**

3. The permittee shall not operate the equipment in the table below unless the associated control device is installed, maintained, and operated in a satisfactory manner:

	Equipment:	Control Device	Stack ID#
a.	All tanks in Feed Tank Group A, All tanks in Feed Tank Group B, All tanks in Feed Tank Group C EU-RsnCrusher, EU-Weigh02	Caustic Scrubber (ID # 03S7010)	SV-Stack01
b.	Strike tank 03T401, Strike tank 03T411, Strike tank 03T402, Strike tank 03T412, EU-RedSlryTnk	Caustic Scrubber (ID # 03S7110)	SV-Stack02

Satisfactory operation includes maintaining operating parameters within the ranges specified in the MAP. **(R 336.1331, R 336.1910)**

4. The permittee shall not operate tank ID # 03T302 as a tobias acid dissolver vessel unless the absolute filter (ID # 03F3020) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining operating parameters within the ranges specified in the malfunction abatement plan. **(R 336.1224, R 336.1225, R 336.1910)**

5. The permittee shall not handle tobias acid in EU-Weigh02 unless the absolute filter (ID # 03F3020) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining operating parameters within the ranges specified in the malfunction abatement plan. **(R 336.1225, R 336.1331, R 336.1910)**

6. The permittee shall not operate strike tanks (ID #s 03T401, 03T411, 03T402, 03T412) unless the caustic scrubber (ID # 03S7110) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the scrubber includes maintaining the liquid flowrate and the pH within the ranges specified in the approved MAP. **(R 336.1224, R 336.1225, R 336.1702(a), R 336.1910)**

7. The permittee shall charge raw materials to FG-AZO in a manner that minimizes fugitive air contaminant emissions. **(R 336.1331, R 336.1702(a))**

8. The permittee shall label all equipment with permanent labels that correspond with the AQD permit and MAP. Labelling shall be completed within 60 days of permit issuance. **(R 336.1201(3))**

V. TESTING/SAMPLING

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

1. The permittee shall verify the DCB content of diarylide yellow product from FG-AZO by testing at owner's expense, in accordance with Department requirements, on a quarterly basis. The permittee shall keep a record of the results of the testing and make the record available to the AQD upon request. The permittee shall perform four consecutive quarterly readings of the DCB content of diarylide yellow product. After successful completion of the four consecutive quarterly readings, the permittee may request an alternative monitoring schedule. Any request for an alternative monitoring schedule shall be submitted to the AQD District Supervisor for approval. [1] **(R 336.1225)**

2. The permittee shall obtain from its suppliers of tobias acid the results of the supplier's analysis of the BNA content of the tobias acid. The permittee shall keep a record of the data received from suppliers and shall make the record available to the AQD upon request. If requested by the AQD, the permittee shall also verify the supplier's analytical data concerning the BNA content of tobias acid by analyzing one lot of tobias acid.[1] **(R 336.1225)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the following operating parameters as specified in the malfunction abatement plan (MAP) at the frequency specified in the MAP:
   a) Liquid flowrate and pH for the caustic scrubber (ID # 03S7010)
   b) Liquid flowrate and pH for the caustic scrubber (ID # 03S7110)
   c) Pressure drop across the absolute filter (ID # 03F3020)

   The permittee shall keep these records on file at the facility and make them available to the AQD upon request. **(R 336.1910)**

2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of Red Pigment processed through the strike tanks in FG-AZO. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1224, R 336.1702(a))**

3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of Yellow Pigment processed through the strike tanks in FG-AZO. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1224, R 336.1702(a))**

VII. REPORTING

1. Whenever the DCB content for any batch of diarylide yellow product exceeds 0.1% by weight, the permittee shall immediately notify the AQD District Supervisor, and within 30 days submit the following to the AQD District Supervisor[1]:
   a) A written report identifying the cause of the high concentration of DCB[1]; and

b) A program, acceptable to the AQD District Supervisor, outlining procedures to be implemented to prevent further such occurrences. [1]

(R 336.1224, R 336.1225)

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-Stack01	25	65	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-Stack02	25	65	R 336.1225, 40 CFR 52.21(c)&(d)

IX. OTHER REQUIREMENTS

NA

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FG-MAIN
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

The MAIN pigment manufacturing process, including associated tanks and other equipment servicing red & yellow pigment processing and strike tanks.

Emission Unit: EU-Weigh01, EU-Weigh03, EU-Strike01T401, EU-Strike01T411, EU-Strike01T421, EU-Strike02T401, EU-Strike02T411, EU-Tank05T104N, EU-Tank05T104S, EU-Tank05T106, EU-Tank05T116

POLLUTION CONTROL EQUIPMENT

Absolute Filter ID #:03F3020, Caustic Scrubber ID #s:02S7010, 02S7110, 05S7010

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.10 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis	Hourly	Equipment in FG-MAIN exhausting to SV-Stack09, SV-Stack10 and SV-Stack11	GC 13	R 336.1331
2. 3-amino-naphthalene-2,7 disulfonic acid	0.4 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
3. 1-amino-naphthalene-2-sulfonic acid	0.4 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
4. 2-naphthyl-amine-3,6-disulfonic acid	0.4 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
5. 2-naphthyl-amine-6-sulfonic acid, sodium salt	0.4 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
6. Beta-naphthyl-amine (BNA)	0.33 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
7. Benzene sulfonic acid	0.4 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
8. 3,3'-Dichloro-benzidine (DCB)	0.01 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
9. Dichloro-biphenyl	0.2 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
10.Dimethoxy-benzidine (DMB)	0.01 µg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225
11. Hydrogen chloride (HCl)	0.26 lb per hour [1]	Hourly	Equipment in FG-MAIN exhausting to Scrubber ID # 02S7010	GC 13	R 336.1225
12. HCl	0.37 lb per hour [1]	Hourly	Equipment in FG-MAIN exhausting to Scrubber ID # 02S7110	GC 13	R 336.1225
13. Sulfamic acid	0.16 mg/m^3 [A,1]	Hourly	FG-MAIN	GC 13	R 336.1225

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
14. Visible Emissions	0% opacity [B]	6-minute average	Equipment in FG-MAIN exhausting to SV-Stack09, SV-Stack10, and SV-Stack11	SC VI.1	R 336.1301

[A] Corrected to 70 degrees F and 29.92 inches Hg
[B] Except for uncombined water vapor

II. MATERIAL LIMITS

Material	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Red pigment	5,000,000 lbs pigment processed through the strike tanks per year	12-month rolling time period as determined at the end of each calendar month	FG-MAIN	SC VI.2	R 336.1224, R 336.1702(a)
2. BNA content of tobias acid used	0.1% by weight[1]	Instantaneous	FG-MAIN	SC V.2	R 336.1224, R 336.1225

III. PROCESS/OPERATIONAL RESTRICTIONS

1. Whenever the 3,3'-dichlorobenzidine (DCB) content for any batch of diarylide yellow pigment exceeds 0.5% by weight, the permittee shall immediately shutdown all process equipment used in producing yellow pigment. Operation of this equipment shall not recommence unless approval has been granted by the Air Quality Division. Such approval shall be granted only if the applicant has demonstrated to the satisfaction of the Air Quality Division that the cause of this occurrence has been identified and that processes have been implemented to prevent any such further occurrence.[1] **(R 336.1224, R 336.1225)**

2. The permittee shall dispose of empty tobias acid bags and empty color containers by placing them into containers inside the building before ultimate disposal.[1] **(R 336.1224, R 336.1225)**

3. The permittee shall not operate FG-MAIN unless an amended malfunction abatement plan (MAP) as described in Rule 911(2), for FG-Main, has been submitted within 60 days of permit issuance, is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 45 days of submittal, the amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate the equipment in the table below unless the associated control device is installed, maintained, and operated in a satisfactory manner:

	Equipment:	Control Device(s)	Stack ID #
a.	All tanks in Feed Tank Group E, EU-Weigh01, EU-Weigh03	Filter (ID # 02F7010)	SV-Stack10

	Equipment:	Control Device(s)	Stack ID #
b.	All tanks in Feed Tank Group D, All tanks in Feed Tank Group E, EU-Weigh01, EU-Weigh03	Caustic scrubber (ID # 02S7010)	SV-Stack10
c.	EU-Tank05T104N, EU-Tank05T104S, EU-Tank05T106, EU-Tank05T116	Caustic scrubber (ID # 05S7010)	SV-Stack11
d.	Strike Tank 01T401, Strike Tank 01T411, Strike Tank 01T421, Strike Tank 02T401, Strike Tank 02T411	Caustic scrubber (ID # 02S7110)	SV-Stack09

Satisfactory operation includes maintaining operating parameters within the ranges specified in the MAP. **(R 336.1331, R 336.1910)**

2. The permittee shall not operate tank ID # 02T302 as a tobias acid dissolver vessel unless the absolute filter (ID # 02AF3020) is installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1225, R 336.1910)**

3. The permittee shall charge raw materials to FG-MAIN in a manner that minimizes fugitive air contaminant emissions. **(R 336.1331, R 336.1702(a))**

4. The permittee shall equip and maintain the caustic scrubbers (ID #s 02S7010, 02S7110, and 05S7010) with liquid flow indication systems. **(R 336.1910)**

5. The permittee shall label all equipment with permanent labels that correspond with the AQD permit and MAP. Labelling shall be completed within 60 days of permit issuance. **(R 336.1201(3))**

V. TESTING/SAMPLING

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

1. The permittee shall verify the DCB content of diarylide yellow product from FG-MAIN by testing at owner's expense, in accordance with Department requirements, on a quarterly basis. The permittee shall keep a record of the results of the testing and make the record available to the AQD upon request. The permittee shall perform four consecutive quarterly readings of the DCB content of diarylide yellow product. After successful completion of the four consecutive quarterly readings, the permittee may request an alternative monitoring schedule. Any request for an alternative monitoring schedule shall be submitted to the AQD District Supervisor for approval. [1] **(R 336.1225)**

2. The permittee shall obtain from its suppliers of tobias acid the results of the supplier's analysis of the BNA content of the tobias acid. The permittee shall keep a record of the data received from suppliers and shall make the record available to the AQD upon request. If requested by the AQD, the permittee shall also verify the supplier's analytical data concerning the BNA content of tobias acid by analyzing one lot of tobias acid.[1] **(R 336.1225)**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall monitor and record, in a satisfactory manner, the following operating parameters as specified in the malfunction abatement plan (MAP) at the frequency specified in the MAP:
   a) Liquid flowrate and pH for the caustic scrubber (ID # 02S7010)
   b) Liquid flowrate and pH for the caustic scrubber (ID # 02S7110)
   c) Liquid flowrate and pH for the caustic scrubber (ID # 05S7010)
   d) Pressure drop across the absolute filter (ID # 02AF3020)
   e) Pressure drop across the coarse filter (ID # 02F7010)

The permittee shall keep these records on file at the facility and make them available to the AQD upon request. **(R 336.1910)**

2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period records of the amount of Red Pigment processed through strike tanks in FG-MAIN. The permittee shall keep all records on file at the facility and make them available to the AQD upon request. **(R 336.1224, R 336.1702(a))**

VII. REPORTING

1. Whenever the DCB content for any diarylide yellow batch exceeds 0.1% by weight, the permittee shall immediately notify the AQD District Supervisor, and within 30 days submit all of the following to the AQD District Supervisor.[1]
   a) A written report identifying the cause of the high concentration of DCB;[1]
   b) A program, acceptable to the AQD District Supervisor, outlining procedures to be implemented to prevent further such occurrences.[1]

   (R 336.1224, R 336.1225)

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-Stack09*	25	179	R 336.1225, 40 CFR 52.21(c)&(d)
2. SV-Stack10	24	77	R 336.1225, 40 CFR 52.21(c)&(d)
3. SV-Stack11	8.4	181	R 336.1225, 40 CFR 52.21(c)&(d)
* Not required to discharge exhaust gases unobstructed vertically upwards.			

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

FGFACILITY CONDITIONS

DESCRIPTION:

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment and exempt equipment.

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. Aggregate HAPs	Less than 25 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(1)
2. Each individual HAP	Less than 10 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(1)

II. MATERIAL LIMITS

NA

III. PROCESS/OPERATIONAL RESTRICTIONS

NA

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 and 12-month rolling time period individual HAP and total HAP emission calculations to demonstrate compliance with the limits in SC I.1 and SC I.2. These calculations shall be based upon emission test results or emission factors; and records of production rate, hours of operation, or fuel usage, as appropriate. The permittee shall keep all records on file and make them available to the AQD upon request. **(R 336.1205(1))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTIONS

NA

IX. OTHER REQUIREMENTS

NA

Footnotes:
[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).