

Iowa Department of Natural Resources

Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 24.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

1. Iowa E.P.S. Products, Inc., located at 4100 Dixon Street, Des Moines, Iowa 50313 has applied for a significant modification to their Title V Operating Permit. The designated responsible official of this facility is Mr. Mike Cataldo, President.
2. Iowa E.P.S. Products, Inc. is a Manufacturer of Polystyrene Foam Products: SIC 3086, NAICS 326140. This facility consists of seventeen (17) significant emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ($\leq 10 \mu\text{m}$)	PM ₁₀	16.12
Particulate Matter	PM	16.12
Sulfur Dioxide	SO ₂	0.06
Nitrogen Oxides	NO _x	10.06
Volatile Organic Compounds	VOC	240.55
Carbon Monoxide	CO	8.45
Hazardous Air Pollutants ⁽¹⁾	HAP	9.40

⁽¹⁾ May include the following: Styrene (CAS 100-42-5) and Vinyl Acetate (CAS 108-05-4).

3. Iowa E.P.S. Products, Inc. submitted an application for a significant Title V Operating Permit modification on April 3, 2023. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of a significant permit modification specified in 567 IAC 22.107 and 567 IAC 113.
4. DNR has complied with the procedures set forth in 567 IAC 24.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.

DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from March 27, 2025 through April 26, 2025. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period. During this time, anyone may submit written comments on the permit. Mail signed comments to Jeff Gabby at the Polk County address shown below.
2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Jeff Gabby at the Polk County address shown below.
3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the permit application. The responsiveness summary and the final permit will be available to the public upon request.

Mr. Jeffrey M. Gabby
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Air Quality Division
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DNR concludes that:

1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 21-33, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.
3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 21-33.
4. DNR is required to comply with 567 IAC Chapter 24 in conjunction with issuing a Title V Operating Permit.
5. The issuance of this permit does not preclude the DNR or Polk County from pursuing enforcement action for any violation.

Worksheet of Air Operating Permit	Manufacturer of Plastic Foam Products (SIC 3086); Polystyrene Foam Product Manufacturing (NAICS 326140)
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Applicant: Iowa E.P.S. Products, Inc.
 EIQ Number: 92-6998
 Facility File Number: 77-01-337

Review Engineer:
 Jeff Gabby

Application Evaluation

A. Project Briefing:

This project regards a Part 70 Title V permit significant modification application to operate the following significant emission units which are added to or modified from Title V Permit #21-TV-004: two (2) Pre-Expanders, (EU 01 / EP 01), (EU 02 / EP 02); Block Storage Area (EU 05 / EP 05F); Pre-Puff Storage Room (EU 06 / EP 06A & 06B); Block Cutting Line with Dry Filter (EU 7D / CE 7D / EP 7D); Korylak/Dingeldein Model 18-005M2 Block Molder (EU 08 / EP 08); Korylak/Dingeldein Model 18-005M2 Block Molder (EU 08B / EP 08B); Hirsch Block Molder (EU 09 / EP 09) and CAD Cutter #1, #2, & #3, with Dry Filters (EU 11A, 11B, 11C / CE 11 / EP 11).

B. Applicable rules and regulations:

1. Emission limits and conditions:

- Plant-Wide Emission Limits:

Pollutant: Opacity

Emission Rate: <20%

Pollutant: VOC

Emission Rate: 240.0 TPY

Pollutant: Styrene

Emission Rate: 9.4 TPY

Process throughput:

- Total Single HAP (Styrene) emissions from all non-combustion sources at this facility shall not exceed 9.4 tons per daily rolling 365-day period. All HAP-containing materials used at the facility shall be included in the emissions calculations.
- The maximum HAP (Styrene) content of the polystyrene beads shall not exceed 0.1%.
- The facility shall not use a product for the production of polystyrene foam that contains a HAP, other than Styrene, as defined in Section 112 of the 1990 Clean Air Act Amendments without first applying for a construction permit modification.
- Total VOC emissions in the form of Pentane from all non-combustion sources at this facility shall not exceed 240.0 tons per daily rolling 365-day period. All VOC-containing materials used at the facility shall be included in the emissions calculations.
- Vendor certification for the VOC (Pentane) content in the polystyrene bead formulas shall be maintained on site for each shipment of beads. Said certifications shall be used to calculate Pentane emissions from each shipment.

- For “off spec” polystyrene beads that have no vendor certification of Pentane content, a sample of every fourth (4th) shipment shall be tested by an off-site independent laboratory to determine the Pentane content of the beads. Said results shall be used to calculate Pentane emissions for the corresponding shipment.
- For any shipment of “off spec” polystyrene beads that have no vendor certification of Pentane content, and are not tested by an off-site independent laboratory, a content of 3.7% shall be used to calculate Pentane emissions.
- Should the VOC content of the tested “off spec” polystyrene beads remain below 3.7% for a minimum of 1-year, Iowa EPS may petition Polk County Air Quality to determine if a reduced testing schedule may be appropriate to demonstrate continuous compliance.
- The facility shall not use a product for the production of polystyrene foam that contains a VOC other than Pentane without first applying for a construction permit modification.

Reporting & Record keeping:

Required records shall be kept on site for a minimum period of five years and shall be made available to representatives of this agency upon request.

- The facility shall maintain the following daily records:
 - The amount of polystyrene beads processed in pounds. For the purposes of calculating emissions, all VOC (Pentane) or HAP (Styrene) may be considered emitted on the day the materials are delivered to the facility or to the production line.
 - The percentage of Pentane content of the beads processed.
 - The vendor certified Pentane content of the polystyrene beads for each shipment; or
 - For shipments of “off spec” polystyrene beads that have no vendor certification of Pentane content, sample test results shall represent the percentage of Pentane content of those beads; or
 - For any shipment “off spec” polystyrene beads that have no vendor certification of Pentane content, and are not tested by an independent laboratory, 3.7% shall be used to calculate the Pentane content of those beads.
- The facility shall maintain the following monthly records:
 - The amount of polystyrene beads processed in pounds. For the purposes of calculating emissions, all VOC (Pentane) or HAP (Styrene) may be considered emitted on the day the materials are delivered to the facility or to the production line.
 - The amount of Styrene emissions from all non-combustion sources, in tons. Said log shall include the 12-month rolling total, rolled monthly.
 - The amount of Pentane emissions from each shipment of polystyrene beads, in tons. Said log shall include the 12-month rolling total, rolled monthly.
- If the 12-month rolling total of VOC (Pentane) emissions exceeds 192.0 tons, the facility shall immediately begin keeping the following weekly records:
 - The amount of Pentane emissions from all non-combustion sources, in tons.

- The 7-day rolling total amount of Pentane emissions from all non-combustion sources, in tons.
- Weekly calculations for Pentane emissions shall continue until the 7-day rolling total of the amount of emissions from all non-combustion sources drops below 192.0 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling weekly calculation of Pentane emissions will cease. If the emissions once again exceed 192.0 tons, weekly recordkeeping shall be required per paragraph C, above, of this permit.
- If the 12-month rolling total of Single HAP (Styrene) emissions exceeds 7.5 tons, the facility shall immediately begin keeping the following weekly records:
 - The amount of Styrene emissions from all non-combustion sources, in tons.
 - The 7-day rolling total amount of Styrene emissions from all non-combustion sources, in tons.
 - Weekly calculations of Styrene emissions shall continue until the 7-day rolling total of the amount of emissions from all non-combustion sources drops below 7.5 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling weekly calculation of Styrene emissions will cease. If the emissions once again exceed 7.2 tons, weekly recordkeeping shall be required per paragraph D, above, of this permit.
- If the 12-month rolling total of VOC (Pentane) emissions exceeds 216.0 tons, the facility shall immediately begin keeping the following daily records:
 - The amount of Pentane emissions from all non-combustion sources, in tons.
 - The 365-day rolling total amount of Pentane emissions from all non-combustion sources, in tons.
 - Daily calculations for Pentane emissions shall continue until the 365-day rolling total of the amount of emissions from all non-combustion sources drops below 216.0 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of Pentane emissions will cease. If the emissions once again exceed 192.0 tons, weekly recordkeeping shall be required per paragraph C, above, of this permit. If the emissions once again exceed 216.0 tons, daily recordkeeping shall be required per paragraph E, above, of this permit.
- If the 12-month rolling total of Single HAP (Styrene) emissions exceeds 8.5 tons, the facility shall immediately begin keeping the following daily records:
 - The amount of Styrene emissions from all non-combustion sources, in tons.
 - The 365-day rolling total amount of Styrene emissions from all non-combustion sources, in tons.
 - Daily calculations of Styrene emissions shall continue until the 365-day rolling total of the amount of emissions from all non-combustion sources drops below 7.5 tons for the remainder of the current calendar month plus one additional calendar month. At that time, rolling daily calculation of Styrene emissions will cease. If the emissions once again exceed 7.5 tons, weekly recordkeeping shall be required per paragraph D, above, of this permit. If the emissions once again exceed 8.5 tons, daily recordkeeping shall be required per paragraph F, above, of this permit.

VOC Emissions Reporting:

For annual Emission Inventory Reporting purposes, calculate the total polystyrene bead VOC and HAP emissions in the previous calendar year and divide amongst the applicable EUs, per the table below.

EU / EP Number	EU Description	% of VOC
EU-01 / EP-01	Sunghoon Model 2000SP Pre-Expander	10.55
EU-02 / EP-02	Sunghoon Model 2200P Pre-Expander	10.55
EU-05 / EP-05F	Block Storage Area	16.47
EU-06 / EP-06	Pre-Puff Storage	41.5
EU-08 / EP-08	Korylak Block Molder	5.93
EU-09 / EP-09	Hirsch Block Molder	15
	Total	100 %

* When EU/EP-08B is in use as a backup for EU/EP-08 or EU/EP-09, the % of VOC emissions shall be calculated at 5.93% when it is replacing EU/EP-08 and at 15% when it is replacing EU/EP-09.

- Authority for Requirement: Polk County Construction Permits: 3346 Modified, 3347 Modified, 3350 Modified, 3353 Modified, 3351 Modified, 3352 Modified, and 3764.

Title V Permit #21-TV-004-M001 Significant Permit Modification application includes the following equipment/ Construction Permit changes:

- Polk County Construction Permit Number 3346 Modified is for the Sunhoon Engineering. Pre-Expander, Model SHF-2000SP, (EU 01 / EP 01);
- Polk County Construction Permit Number 3347 Modified is for the Sunhoon Engineering. Pre-Expander, Model SHF-2000P, (EU 02 / EP 02);
- Polk County Construction Permit Number 3350 Modified is for the Block Storage Area, (EU 05 / EP 05F).
- Polk County Construction Permit Number 3353 Modified is for the Pre-Puff Storage Room (EU 06 / EP 06A, 06B).
- Polk County Construction Permit Number 4010 is for the Block Cutting Line with Dry Filter (EU 7D / CE 7D / EP 7D).
- Polk County Construction Permit Number 3351 Modified was issued for the Korylak/Dingeldein Model 18-005M2 Block Molder (EU 08 /EP 08).
- Polk County Construction Permit Number 3764 was issued for the Korylak/Dingeldein Model 18-005M2 Block Molder (EU 08B /EP 08B).
- Polk County Construction Permit Number 3352 Modified was issued for the Hirsch Block Molder (EU 09 / EP 09).
- Polk County Construction Permit Number 3938 was issued for CAD Cutter #1, #2, & #3, with Dry Filters (EU 11A, 11B, 11C / CE 11 / EP 11).

2. Opacity for the facility is limited to Less than 20% opacity by Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9.

- Opacity for EP 01, EP 02, EP 05F, EP 06A, EP 06B, EP 7D, EP 08, EP 09, and EP 11 are each limited to Less than 20% opacity by each of their respective AQD Construction Permits.

3. NSPS:

No applicable Part 60 NSPS apply to the processes of this modification.

4. NESHAP: Not applicable at this time.

No applicable Part 60 NSPS apply to the processes of this modification.

5. PSD: Source is currently a VOC minor source (PSD), with a facility wide PTE of 240.00 TPY VOC. Individual EP VOC PTE equals 240.55 TPY. The facility has a plantwide VOC PTE of 240 TPY from EPS Bead usage. Two Natural Gas boilers are not included in this limit, and have a combined PTE of 0.55 TPY VOC. This gives the facility a total plantwide PTE of 240.55 TPY VOC.

6. NAAQS: Facility is located in an attainment area. Air modeling is not required at this time.

7. Title IV: Not applicable.

8. Stratospheric ozone: the only ozone depleting chemicals (regulated by 40 CFR 82) at the facility are those used for air conditioning. 40 CFR 82, Subpart F, applies to the disposal of appliances containing Class I or Class II substances (i.e. air conditioners).

9. PM-10:

- EP-01, EP-02, EP-05F, EP-06A, EP-06B, EP08, EP-0B, and EP-09 are VOC and HAP VOC only sources, and have no PM/ PM-10 PTE nor limits.
- EP 7D: Block Cutting Line with Dry Filters (EU 07D / CE 7D / EP 7D) is permitted by Polk County Construction Permit #4010, which limits PM₁₀ to 0.70 lb./ hr. and 0.10 gr/dscf PM.
- Polk County Construction Permit Number 3938 limits PM to 0.10 gr./ dscf, from CAD Cutter #1, #2, & #3 with Dry Filter (EU 11A, 11B, 11C / CE 11 / EP 11).

C. Monitoring consideration:

PM:

- EP-01, EP-02, EP-05F, EP-06A, EP-06B, EP08, EP-0B, and EP-09 are VOC and HAP VOC only sources, and have no PM/ PM-10 PTE nor limits. No CAM and no Periodic Monitoring apply.
- EP 7D: Block Cutting Line with Dry Filters (EU 07D / CE 7D / EP 7D) is permitted by Polk County Construction Permit #4010, which limits PM₁₀ to 0.70 lb./ hr. and 0.10 gr/dscf PM. Controlled PM / PM₁₀ PTE is 3.07 TPY, uncontrolled PTE is 30.7 TPY [controlled minor / uncontrolled significant]. A

Facility O&M Plan is required and no tests under DNR's Monitoring Guidance Policy. CAM is not required because of uncontrolled PTE.

- Polk County Construction Permit Number 3938 limits PM to 0.10 gr./ dscf, from CAD Cutter #1, #2, & #3 with Dry Filter (EU 11A, 11B, 11C / CE 11 / EP 11). Controlled PM / PM₁₀ PTE is 5.31 TPY, uncontrolled PTE is 53.1 TPY [controlled minor / uncontrolled significant]. A Facility O&M Plan is required and no tests under DNR's Monitoring Guidance Policy. CAM is not required because of uncontrolled PTE.

Opacity:

- EP-01, EP-02, EP-05F, EP-06A, EP-06B, EP08, EP-0B, and EP-09 are VOC and HAP VOC only sources. They are permitted under Polk County PR-00576-2022, which limits opacity to <20%. No visible emissions are expected due to source emission characteristics. No monitoring will be required.
- EP 7D: Block Cutting Line with Dry Filters (EU 07D / CE 7D / EP 7D) is permitted by Polk County Construction Permit #4010, which limits opacity to <20%. EP 7D shall be visually checked for observable emissions once every week by a designated observer. The observation shall be taken while the equipment is operating at or near full capacity. The observation shall be noted in a log book, which shall state the date, time, observer's signature, and whether any emissions were observed. If visible emissions are observed, corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required. If an opacity $\geq 20\%$ is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. The log book will be maintained on site for 5 years and be made available to representatives of Polk County AQD upon request.
- EP 11: CAD Cutter #1, #2, & #3 with Dry Filter (EU 11A, 11B, 11C / CE 11 / EP 11) is permitted by Polk County Construction Permit Number 3938, which limits opacity to <20%. EP 11 shall be visually checked for observable emissions once every week by a designated observer. The observation shall be taken while the equipment is operating at or near full capacity. The observation shall be noted in a log book, which shall state the date, time, observer's signature, and whether any emissions were observed. If visible emissions are observed, corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required. If an opacity $\geq 20\%$ is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation,

the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. The log book will be maintained on site for 5 years and be made available to representatives of Polk County AQD upon request.

VOC:

- Polk County Construction Permits: 3346 Modified, 3347 Modified, 3350 Modified, 3353 Modified, 3351 Modified, 3352 Modified, and 3764 contain plantwide VOC and HAP emission limits. These are based on total polystyrene bead usage through a mass balance calculation, and are not attributable to individual process equipment EUs. Appropriate monitoring, record keeping, and reporting are found in the permits noted above, and described in full in the Plant-Wide Emission Limits and conditions starting on page 1 of this document.

Total VOC PTE from the facility is 240.55 TPY. Compliance with the 12-month rolling limits are assured through raw material throughput limits and recordkeeping. DNR Monitoring Policy indicates no stack testing required for this scenario. CAM is not applicable, as there is no VOC control equipment.

HAPs:

- Polk County Construction Permits: 3346 Modified, 3347 Modified, 3350 Modified, 3353 Modified, 3351 Modified, 3352 Modified, and 3764 contain plantwide VOC and HAP emission limits. These are based on total polystyrene bead usage through a mass balance calculation, and are not attributable to individual process equipment EUs. Appropriate monitoring, record keeping, and reporting are found in the permits noted above, and described in full in the Plant-Wide Emission Limits and conditions starting on page 1 of this document.

Total HAP PTE from the facility is 9.40 TPY, (uncontrolled minor). Compliance with the 12-month rolling limits are assured through raw material throughput limits and recordkeeping. DNR Monitoring Policy indicates no stack testing required for this scenario. CAM is not applicable, as there is no HAP control equipment.

SO₂, NO_x, and CO

None applicable to this modification.

D. Facility Proposed Limits: None

E. Responsible Official: Mr. Mike Cataldo, President, is in charge of a principle business function, that of producing and selling E.P.S. Bead products, and making a profit for Iowa E.P.S. Products, Inc. He meets the definition of a Responsible Official found in 567 IAC 24.100.

Additional Notes:

- DNR EO10 Rules nomenclature and addresses were updated throughout the permit. General Conditions updated to the latest revisions. Permit is ADA compliant.