

## **STATEMENT OF BASIS**

U.S. Amines (Bucks) LLC  
Bucks, Alabama  
Mobile County  
503-5010

On September 7, 2021, the Department received U.S. Amines' application for their fourth Title V permit renewal. U.S. Amines' current Title V permit expires on April 3, 2022. This proposed Title V Major Source Operating Permit would be issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

U.S. Amines operates a specialty chemicals manufacturing facility which is located off of Highway 43 in Bucks, Alabama. The plant is major source with respect to Title V and PSD. The major criteria pollutant emitted from this facility is Volatile Organic Compounds (VOCs).

Changes from the existing permit:

1. Tanks TA-917 and TA-918 were replaced with similar tanks TA-923 and TA-924.
2. Tank TA-1471 was replaced with similar tank TA-1473.
3. Dicyclohexylamine Tank TA-1339 switched service to Propionitrile.
4. Addition of 240,500 gallon Isopropanol Storage Tank TA-1536 with Scrubber to permit.
5. Number 1 & 2 Amines Plant flare emission factors were updated.

There are no current or ongoing enforcement actions against U.S. Amines necessitating additional requirements to achieve compliance with permit conditions. Mobile County is currently listed in attainment with all National Ambient Air Quality Standards (NAAQS).

### **No. 1 Amines Plant with Flare**

The unit is controlled by a flare. The flare is not required by any regulation. The unit was built in 1975 and, therefore, predates PSD regulations. The flare controls emissions from the vent header. The vent header collects emissions from the adsorbers, strippers, distillation columns, and other miscellaneous process equipment. The presence of the flare flame is monitored continuously and the flare is equipped with an automatic re-light feature. An alarm sounds if the flame is lost.

#### *No. 1 Amines Plant Flare (A1-01)*

##### Emission Standards

The No. 1 Amines flare is subject to the state opacity emission limits found in 335-3-4-.01, which limits opacity to 20% for a 6 minute average. This unit is subject to the requirements of 40 CFR Part 63, Subpart VVVVVV.

##### Periodic Monitoring

Existing monitoring consists of continuous monitoring of the flame to ensure that the flare is in operation. Because no changes have been made to the existing process and the monitoring has been proven to be sufficient, no modifications to the existing monitoring requirements were made.

In order to comply with 40 CFR Part 63, Subpart VVVVVV, the facility will perform quarterly inspections of the equipment and process vessels that are in metal HAP service. The facility will maintain records of these inspections.

## **No. 2 Amines Plant with Smokeless Flare**

Emissions from the No. 2 Amines Plant is controlled by a flare. The flare controls emissions from the vent header that collects pollutants from the surge tank condenser, ammonia stripper, product column and various storage tanks. The flare also controls emissions from the comparable fuel storage tank associated with the boiler. The presence of the flare flame is continuously monitored, and the flare is equipped with an automatic re-light feature. An alarm sounds if the flame is lost. The unit is subject to NSPS Subpart VV for equipment leaks.

### *No. 2 Amines Plant Flare (A2-01)*

#### Emission Standards

There are no specific emission standards for any pollutant emitted from this unit. Although not required, the flare is typically operated at a minimum VOC destruction efficiency of 98%. This unit is subject to the New Source Performance Standard for control of Equipment Leaks in 40 CFR Part 60, Subpart VV. This unit is subject to the requirements of 40 CFR Part 63, Subpart VVVVVV.

#### Periodic Monitoring

Existing monitoring for the flare consists of continuous monitoring of the flame to ensure that the flare is in operation. Because no changes have been made to the existing process and the monitoring has been proven to be sufficient, no modifications to the existing monitoring requirements were made.

In order to comply with 40 CFR Part 63, Subpart VVVVVV, the facility will perform quarterly inspections of the equipment and process vessels that are in metal HAP service. The facility will maintain records of these inspections.

### *Acetone Reactor TA-1701*

Air Permit 503-5010-X021 was issued on July 28, 2011 for an Acetone Reactor vented to the No. 2 Amines Plant Flare. On February 13, 2012, a Temporary Authorization to Operate was issued. A Method 22 observation was performed on the No. 2 Amines Flare on May 3, 2012, while the Acetone Reactor was operating at 100%. No opacity was observed.

#### Emission Standards

This reactor is subject to the requirements of 40 CFR Part 60, Subpart RRR, which state that emissions from the reactor must be routed to a flare that meets §60.18. Components in VOC service on this reactor are included in the leak detection and repair program for the unit, required by 40 CFR Part 60, Subpart VV.

#### Periodic Monitoring

The periodic monitoring done for the flare would be sufficient to meet the requirements of 40 CFR Part 60, Subpart RRR. No additional monitoring would be required.

### **120.46 MMBtu/hr Natural Gas Fired Boiler**

This boiler is permitted to burn Natural Gas only. The boiler was previously permitted to burn fuels that meet the minimum requirements of the "RCRA Comparable Fuels Rule" as listed in 40 CFR 261.38 and alternative fuels approved by the Department. However, the unit was never modified. On October 19, 2010, the Title V permit was modified at the request of U.S. Amines to return this section of the permit to its original condition before the modification of the permit was made.

#### **Emission Standards**

The source has accepted the following emission limits for the boiler: 0.17 lb PM/MMBTU and 1.8 lb SO<sub>2</sub>/MMBTU.

This boiler is exempt from the New Source Performance Standards found in 40 CFR Part 60, Subparts Da and Db based on the construction date of the boiler. The boiler was constructed on January 1, 1975, and has not been reconstructed or modified since.

This boiler is subject to the state regulations for particulate emissions from fuel burning equipment found in 335-3-4-.03(1). Based on the equation found in this regulation, the emission limit would be 0.17 lb/MMBTU. This limit would be inherently satisfied by the requirement that the boiler fire only natural gas.

This boiler is subject to the state regulations for Sulfur Dioxide emissions from fuel burning equipment found in 335-3-5-.01(1)(a), which requires that SO<sub>2</sub> emissions not exceed 1.8 lb/MMBTU. This limit would be inherently satisfied by the requirement that the boiler fire only natural gas.

#### **Periodic Monitoring**

There would be no periodic monitoring required for this unit.

### **Three Emergency Diesel Powered Fire Water Pumps**

The facility has three emergency diesel fire water pumps that have the potential to fall under 40 CFR Part 63, Subpart ZZZZ. The three fire water pumps are for emergency purposes only. Two of the pumps are rated at 285 horsepower (hp) and were installed in 1972. The third pump is rated at 320 hp and was installed in 1985. All three pumps are Compression Ignition (CI) 4-stroke Reciprocating Internal Combustion Engines (RICE).

Since the fire water pumps are for emergency purposes only, are existing engines (installed prior to June 12, 2006), and are combustion ignition, the only portion of 40 CFR Part 63, Subpart ZZZZ they are subject to is §63.6640(f).

#### **Emission Standards**

The fire water pumps are subject to ADEM Admin. Code 335-3-4-.01(1)(a and b) which states the pumps may not emit an opacity greater than 20%, as determined by a 6-minute average, except for one 6-minute period per 60-minute period where they are not allowed to emit an opacity greater than 40%.

## **TA-1536 240,500 Gallon Isopropanol Storage Tank with Scrubber**

This tank is subject to the requirements of 40 CFR Part 60, Subpart Kb. The tank has an attached scrubber for control to meet the requirements of Subpart Kb. The tank is subject to 40 CFR Part 60, Subpart VV for leak detection and repair.

### **Emission Standards**

There are no specific emission standards for any pollutant emitted by this source. The source is required to have a 95% or better destruction rate efficiency from the scrubber. The source is also subject to 40 CFR Part 60, Subpart VV for leak detection and repair.

### **Periodic Monitoring**

The periodic monitoring of the scrubber would be a flow monitor to ensure consistent flow over the minimum designed flowrate.

### **Compliance Assurance Monitoring (CAM)**

This facility is not subject to the provisions of 40 CFR Part 64, Compliance Assurance Monitoring (CAM) because none of the permitted units utilizes a control device to comply with an emission limitation or standard.

### **Environmental Justice**

ADEM utilized EPA's EJSCREEN screening tool to help identify areas that may warrant additional consideration, analysis, or outreach (see attached EJSCREEN Report).

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Elliott Glover  
Industrial Chemicals Section  
Chemical Branch  
Air Division

October 27, 2021

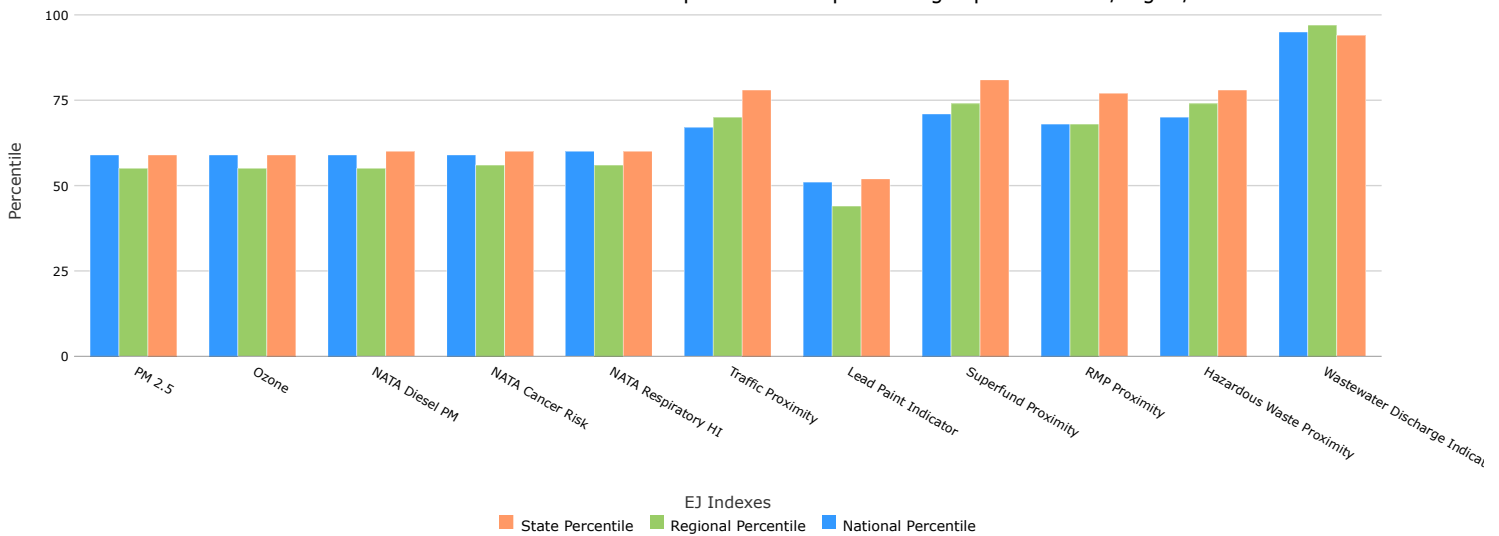
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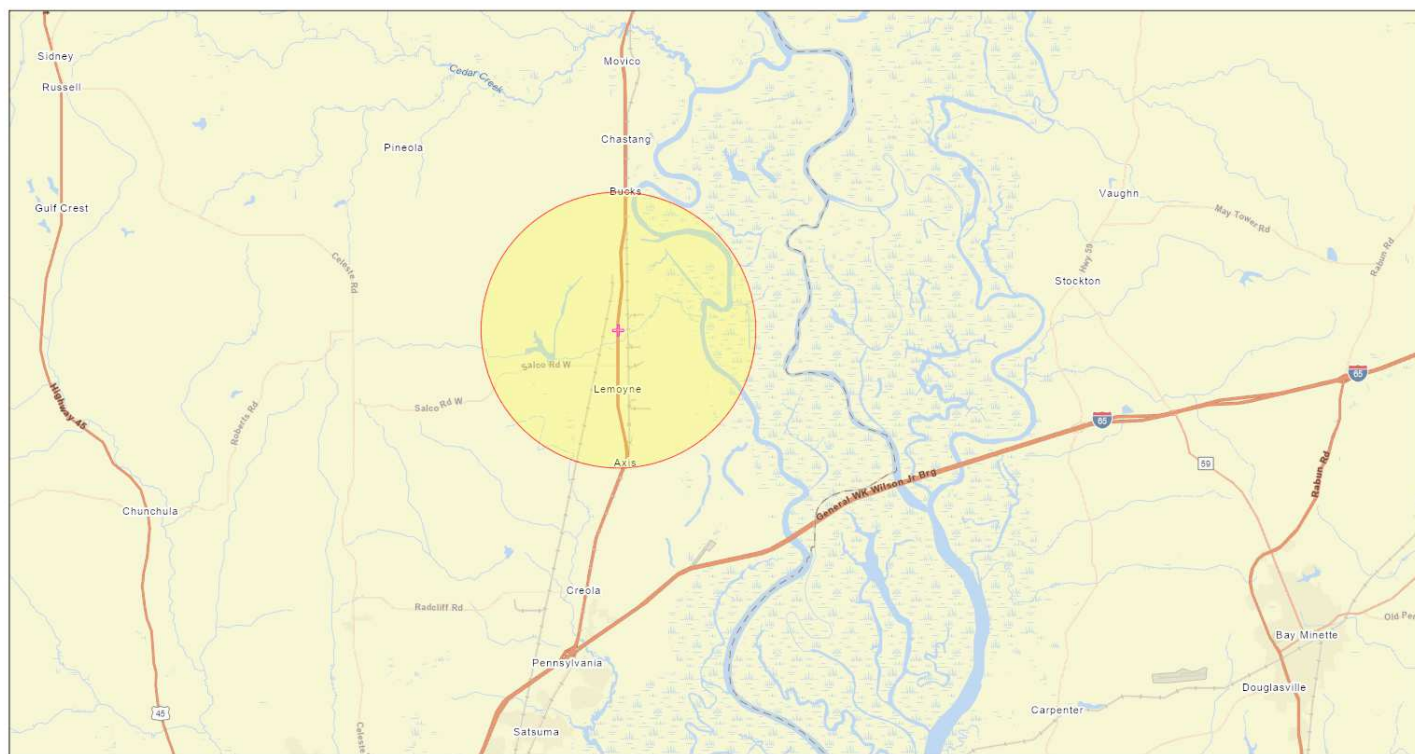
**EJSCREEN Report (Version 2020)**  
**3 miles Ring Centered at 30.979670,-88.026924**  
**ALABAMA, EPA Region 4**  
**Approximate Population: 766**  
**Input Area (sq. miles): 28.27**

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
<b>EJ Indexes</b>			
EJ Index for Particulate Matter (PM 2.5)	59	55	59
EJ Index for Ozone	59	55	59
EJ Index for NATA* Diesel PM	60	55	59
EJ Index for NATA* Air Toxics Cancer Risk	60	56	59
EJ Index for NATA* Respiratory Hazard Index	60	56	60
EJ Index for Traffic Proximity and Volume	78	70	67
EJ Index for Lead Paint Indicator	52	44	51
EJ Index for Superfund Proximity	81	74	71
EJ Index for RMP Proximity	77	68	68
EJ Index for Hazardous Waste Proximity	78	74	70
EJ Index for Wastewater Discharge Indicator	94	97	95

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/US



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.



October 20, 2021

Search Result (point)



Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Sites reporting to EPA	
Superfund NPL	2
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	7

Selected Variables	Value	State		EPA Region		USA	
		Avg.	%tile	Avg.	%tile	Avg.	%tile
<b>Environmental Indicators</b>							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$ )	8.84	9.31	21	8.57	64	8.55	59
Ozone (ppb)	36	38	15	38	38	42.9	13
NATA* Diesel PM ( $\mu\text{g}/\text{m}^3$ )	0.281	0.346	48	0.417	<50th	0.478	<50th
NATA* Air Toxics Cancer Risk (risk per MM)	44	43	53	36	90-95th	32	90-95th
NATA* Respiratory Hazard Index	0.68	0.65	54	0.52	90-95th	0.44	90-95th
Traffic Proximity and Volume (daily traffic count/distance to road)	130	220	63	350	53	750	39
Lead Paint Indicator (% pre-1960s housing)	0.035	0.18	23	0.15	35	0.28	23
Superfund Proximity (site count/km distance)	0.21	0.054	97	0.083	92	0.13	86
RMP Proximity (facility count/km distance)	0.77	0.41	84	0.6	76	0.74	70
Hazardous Waste Proximity (facility count/km distance)	1.1	0.82	72	0.91	75	5	52
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.19	1.2	92	0.65	95	9.4	91
<b>Demographic Indicators</b>							
Demographic Index	32%	36%	51	37%	48	36%	52
People of Color Population	29%	34%	53	39%	46	39%	47
Low Income Population	35%	38%	46	36%	50	33%	60
Linguistically Isolated Population	0%	1%	71	3%	51	4%	45
Population with Less Than High School Education	19%	14%	70	13%	75	13%	77
Population under Age 5	6%	6%	58	6%	60	6%	57
Population over Age 64	16%	16%	51	17%	56	15%	60

\*The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

For additional information, see: [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice) (<http://www.epa.gov/environmentaljustice>)

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.