

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 032016 - 004 Project Number: 2015-09-053
Installation Number: 095-0030

Parent Company: Audubon Materials LLC

Parent Company Address: 15100 E. Courtney-Atherton Road, Sugar Creek, MO 64058

Installation Name: Audubon Materials LLC - Sugar Creek Cement Plant

Installation Address: 2200 N Courtney Road, Sugar Creek, MO 64050

Location Information: Jackson County, S13, T50N, R32W

Application for Authority to Construct was made for:

The use of non-hazardous wastewater treatment byproducts (WWTB) as alternative raw material (ARM). This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 14 2016

EFFECTIVE DATE

Kendall B. Hale for

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Audubon Material LLC – Sugar Creek Cement Plant
Jackson County, S13, T50N, R32W

1. Wastewater Treatment Byproducts (WWTB) Usage Requirements
 - A. Audubon Materials LLC – Sugar Creek Cement Plant shall not use more than 15,000 tons of the WWTB in the preheater/precalciner cement kiln (EP77) in any consecutive 12-month period. The WWTB shall not be classified as hazardous as defined in 40 CFR Part 261.
 - B. Audubon Materials LLC – Sugar Creek Cement Plant shall only process WWTB from inorganic processes. WWTB from other sources such as organic industrial processes or municipal treatment facilities are not permitted.
 - C. Audubon Materials LLC – Sugar Creek Cement Plant shall record the monthly and running 12- month total of WWTB used in the preheater/precalciner cement kiln (EP77) to demonstrate compliance with the limit in Special Condition 1.A. Attachment A, or equivalent forms, shall be used for this purpose.
 - D. Audubon Materials LLC – Sugar Creek Cement Plant shall maintain a record of the sources of WWTB used in the preheater/precalciner cement kiln (EP77) to ensure compliance with Special Condition 1.B. Attachment A, or equivalent forms, shall be used for this purpose.
2. WWTB HAPs Requirements
 - A. Audubon Materials LLC – Sugar Creek Cement Plant shall perform tests on the WWTB from each supplier for the HAP composition. The testing shall be performed in accordance with Special Condition 3.
 - B. Audubon Materials LLC – Sugar Creek Cement Plant shall not use WWTB in the preheater/precalciner kiln (EP77) containing HAPs equal to or greater than the following amounts.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

Table 1: Limestone HAP Composition

Pollutant	Composition (ppmw¹)
Arsenic	33.3
Cadmium	66.6
Chromium	33333.3
Chromium VI	13.33
Cobalt	3333.3
Lead	66.6
Manganese	3333.3
Mercury	66.6
Nickel	6666.6
Selenium	666.6

¹ppmw = parts per million by weight

- C. If composition testing required in Special Condition 2.A shows that the WWTB contains a HAP not listed in Table 1, Audubon Materials LLC – Sugar Creek Cement Plant shall use the HAP composition to determine the individual HAP emissions increase from the use of the new material. Audubon Materials LLC – Sugar Creek Cement Plant shall also use the HAP composition to determine the emissions increase of combined HAPs. The emissions increase shall be calculated using one of the following methods.
- 1) For HAPs that are particulate matter, use $[15,000 \text{ tpy WWTB}] \times [\text{HAP composition in \%}] \times [0.01]$. The 0.01 factor takes into account a 99% control efficiency for the baghouse.
 - 2) For HAPs that are not particulate matter, use $[15,000 \text{ tpy WWTB}] \times [\text{HAP composition in \%}]$
- D. Audubon Materials LLC – Sugar Creek Cement Plant shall keep a copy of the calculations required in Special Condition No. 2. C. onsite.
- E. Audubon Materials LLC – Sugar Creek Cement Plant shall either submit a modification request to account for the new information or contact the Air Pollution Control Program for further instruction if any of the following occurs.
- 1) If any test required in Special Condition 2.A. shows an exceedance of any of the HAP composition values in Table 1;
 - 2) If calculations required in Special condition 2.C. shows that any individual HAP emissions is greater than the SMAL (or 10.0 tpy if the HAP does not have a SMAL); or

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- 3) If calculations required in Special Condition 2.C. shows that combined HAP emissions is greater than 25.0 tpy. A list of the SMAL for each HAP, current to the date of permit issuance, is given in Appendix A. For an updated list of the SMAL, the installation can contact the Air Pollution Control Program or visit the website <http://dnr.mo.gov/env/apcp/docs/cp-hapraltbl6.pdf>.
3. Performance Testing
 - A. Testing shall be performed under the following time frames depending on the source of the WWTB.
 - 1) For WWTB obtained from EFCO, the initial test shall be performed within 30 days of using the WWTB. Thereafter, testing shall be performed once per quarter (3 months). Audubon Materials LLC – Sugar Creek Cement Plant may scale back the testing frequency to once every six (6) months if all of the following occurs during four (4) consecutive tests.
 - a) If the tests show compliance with the HAPs limit in Table 1 of Special Condition 2.B.
 - b) If calculations required in Special Condition 2.C. shows that any individual HAP emissions is less than the SMAL (or 10.0 tpy if the HAP does not have a SMAL).
 - 2) For WWTB obtained from sources other than EFCO, the initial test shall be performed within 30 days of using the WWTB. Thereafter, testing shall be performed once every month. Audubon Materials LLC – Sugar Creek Cement Plant may scale back the testing frequency to once every three (3) months if all of the following occurs during six (6) consecutive tests.
 - a) If the tests show compliance with the HAPs limit in Table 1 of Special Condition 2.B.
 - b) If calculations required in Special Condition 2.C. shows that any individual HAP emissions is less than the SMAL (or 10.0 tpy if the HAP does not have a SMAL).
 - B. During each tests required in Special Condition 3.A., three samples from the same supplier shall be taken and the average HAP composition used to show compliance.
 - C. Testing shall be performed using one of the EPA 6000 series methods (e.g. Method 6010D, 6020B, etc.) and EPA 7196A or other methods approved by the Director.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- D. If any testing result shows a HAP content less than the testing method's detection level (DL), the DL shall be used as the HAP content for compliance purposes.
 - E. Audubon Materials LLC – Sugar Creek Cement Plant shall keep copies of the testing results onsite.
4. Record Keeping and Reporting Requirements
- A. Audubon Material LLC – Sugar Creek Cement Plant shall maintain all records required by this permit for not less than five years and shall make them available to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used
 - B. Audubon Material LLC – Sugar Creek Cement Plant shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2015-09-053
Installation ID Number: 095-0030
Permit Number:

Audubon Material LLC – Sugar Creek Cement Plant
2200 N Courtney Road
Sugar Creek, MO 64050

Parent Company:
Audubon Materials LLC
15100 E. Courtney-Atherton Road
Sugar Creek, MO 64058

Jackson County, S13, T50N, R32W

REVIEW SUMMARY

- Audubon Material LLC – Sugar Creek Cement Plant has applied for authority to use wastewater treatment byproducts (WWTB) for use as raw material in its preheater/precalciner cement kiln (EP77).
- The application was deemed complete on September 22, 2015.
- HAP emissions are expected from the WWTB. HAPs of concern include mercury, lead, and various metal HAPs.
- 40 CFR 60, Subpart F, *Standards of Performance for Portland Cement Plants*, of the NSPS applies to the kiln, as well as other equipment at the installation.
- 40 CFR 61, Subpart E, *National Emission Standard for Mercury*, of the NESHAP applies to the drying and incineration of the WWTB.
- The MACT standard, 40 CFR Part 63, Subpart LLL, *National Emission Standards from the Portland Cement Manufacturing Industry*, applies to the kiln, as well as other equipment at the installation.
- A baghouse (CD44-1) is being used to control emissions from the kiln. However, there are no special condition in this permit requiring their use because it is already required as a condition in the PSD Permit No. 0897-019.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are conditioned below the de minimis levels.
- This installation is located in Jackson County, a nonattainment area for the 8-hour

ozone standard and the PM_{2.5} standard and an attainment area for all other criteria pollutants.

- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are conditioned below the de minimis levels or the SMAL.
- Emissions testing is not required for the kiln as a requirement in this permit. However, the installation is required to test the WWTB for the HAP composition.
- A modification to the installation's Part 70 Operating Permit application is required for this installation within 1 year of permit issuance.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Audubon Materials LLC owns and operates a Portland cement manufacturing facility in Sugar Creek. Operations at the installation include rock quarrying and crushing, raw material handling and grinding, a cement kiln, clinker grinding and finishing, product storage, and product load-out by truck, railcar, or barge. The facility is a major source for both construction and operating permits.

The following New Source Review permits have been issued to Audubon Materials LLC – Sugar Creek Cement Plant from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
0897-019	PSD permit for the construction of a new Portland cement plant.
0897-019A	Revision to Special Conditions 1, 6, 11, 12, and 17 of previous permit. Special conditions revised to remove/change control requirements and to modify emission point numbers.
0897-019B	Increasing daily throughput of the aggregate plant from 4,000 tons to 6,000 tons per day.
012002-004	Use the finish mill from the old cement plant to process clinker from the new cement plant.
112008-011	Addition of new bottom ash storage pile and an expansion of existing coal storage pile. Addition of one new primary crusher.
0897-019C	Revision of special conditions to account for various activities such as removal of non-constructed equipment, change/removal of control measures, etc.
082004-016	Using alternative fuels.
072004-028	Addition of a chlorine bypass system for the cement kiln.
112004-014	Addition of hopper and conveyor for clinker reclaim.
0897-019D	Re-evaluation of PM ₁₀ limit based on testing.
092005-015	Construction of blended cement system.
062006-002	Installation of cement kiln dust loading system.

082004-016A	Removing limit on the amount of landfill gas allowed to be combusted in the kiln.
082004-016B	Allowing alternative fuels
0897-019E	Revision to Special Condition 5 to modify control procedure for paved haul roads.
022009-005	Installation of two screens and associated equipment.
082004-016C	Increasing chlorine limit for the alternative solid fuel.
0897-019F	Incorporating emission limits and monitoring requirements based on consent decree (Civil Action No. 3: 10-cv-000444-JPG-CJP)
082004-016D	Add petroleum coke slag fuel to allowed alternative fuel categories
0897-019G	Incorporate NO _x limit for Consent Decree (Civil Action No. 3:10-cv-000444-JPG-CJP)

The list of previous permits in Table 2 does not include permits for the old cement plant, which was shut down after the new plant was built.

PROJECT DESCRIPTION

Audubon Materials LLC – Sugar Creek Cement Plant proposes to use wastewater treatment byproducts (WWTB) as an alternative raw material for the preheater/precalciner cement kiln (EP77). The WWTB will replace part of the limestone currently in use. The installation is limited in Special condition No. 1 to the use of 15,000 tons per year of WWTB.

The addition of the WWTB will not increase the maximum design rate of the kiln. Currently, the facility plans to use wastewater treatment sludge (WWTB) from EFCO. Because the WWTB has approximately 70% moisture content, the limestone will be replaced at a ratio of approximately 3 parts WWTB to 1 part limestone by weight. This permit allows the installation to obtain WWTB from sources other than EFCO. The replacement ratio for WWTB from other sources may be different depending on the moisture content.

The WWTB will be transported inside the installation using existing haul roads. Part of the haul road is paved while other parts of the haul roads are unpaved, but controlled using documented watering or chemical dust suppressants. A dust collector is used to control emissions from the cement kiln.

There are emissions limits set for various pollutants in previous permits issued to the installation for the kiln. These limits still apply and the installation is required to maintain compliance with these limits.

The installation claimed that there will be no volatile HAP emissions from the WWTB because all of the WWTB will be taken from inorganic industrial processes. Therefore, this permit contains a special condition (no. 1. B.) that requires the facility to only use WWTB from inorganic industrial processes. The facility is not permitted to use any WWTB from organic industrial processes or municipal sources. The facility shall use Attachment A, or equivalent forms, to track the supplier and the processes that produced the WWTB to ensure compliance.

EMISSIONS/CONTROLS EVALUATION

The addition of the WWTB is considered a modification because it involves a physical change in, or change in the method of operation of, an existing major stationary source. As a modification, the emissions evaluations were performed in accordance with 40 CFR 52.21, which is the federal requirements for the PSD program. The first step in determining if this project is subject to the PSD program is to determine if there is a significant emissions increase in any of the criteria pollutants, including PM_{2.5}, PM₁₀, PM, SO_x, NO_x, VOC, CO, GHG-mass, GHG-CO_{2e} and Lead. For particulates, SO_x, NO_x, and CO, there should be no emission increase from this project. The previous permit issued to the installation (No. 0897-019G) included emission limits for these pollutants and these emission limits still apply. For GHG-mass and GHG-CO_{2e}, there should be no increases in emissions as CO₂ is emitted from the decomposition of calcium carbonate (CaCO₃) and the CaCO₃ content of the WWTB is expected to be equal to or lower than limestone. There should also be no VOC emissions increase because the composition of WWTB should yield lower VOC emissions than limestone. The only emissions increases should be lead, mercury, and other metal HAPs, all of which might be contained in higher levels in the WWTB than limestone.

For HAPs, lead, and mercury, emissions are calculated by using potential emissions (PTE) minus the Baseline Actual Emissions (BAE). For the PTE, emissions can be adjusted by subtracting the portion of the emissions that the emission units could have accommodated unrelated to the current project. Taking this into account, the HAPs and mercury emissions of the current project are just the potential emissions from the processing of the 15,000 tons of WWTB. Metal HAPs, lead, and mercury emissions were calculated using mass balances assuming a maximum concentration that will lead to emissions below that of the individual SMAL of the HAP. This permit includes a special condition that limits the concentration of the HAP to less than this maximum concentration level. For the metal HAPs and lead, a 99% control efficiency is given for the baghouse. The metal HAPs are also considered particulate emissions so they are included in the PM_{2.5}, PM₁₀, and PM emissions from the project. The facility is required to test for the HAPs composition. The tests may show HAPs that are not included in the permit review analysis. Therefore, this permit has special conditions that require the facility to calculate the emissions from these HAPs to ensure that they are less than the SMAL.

There will be particulate emissions from the hauling of the WWTB. Some parts of the haul road used to transport WWTB are paved while some are unpaved. However, the application did not differentiate between the paved and unpaved portions. Emissions calculated using the equations from AP-42, Chapter 13.2.1, *Paved Haul Roads*, (1/2011), are greater than the emissions calculated using equations from AP-42, Chapter 13.2.2, *Unpaved Roads*, (11/2006). Therefore, for a conservative analysis, emissions were calculated using the paved haul road equations.

The following table provides an emissions summary for this project. Existing actual emissions were taken from the installation's 2014 EIQ as the 2015 EIQ is not required to be submitted yet.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/D	N/D	8.53	N/A
PM ₁₀	15.0	654.17	121.83	7.02	N/A
PM _{2.5}	10.0	N/D	48.63	6.74	N/A
SO _x	40.0	3,810.21	116.78	0.00	N/A
NO _x	40.0	2,702.43	1,074.40	0.00	N/A
VOC	40.0	134,79	87.29	0.00	N/A
CO	100.0	1,171.7	592.70	0.00	N/A
GHG (CO ₂ e)	75,000	N/D	N/D	0.00	N/A
GHG (mass)	100.0	N/D	N/D	0.00	N/A
Combined HAPs	10.0	N/D	5.73	<25.0	N/A
Arsenic	¹ 0.005	N/D	N/D	<0.005	N/A
Cadmium	¹ 0.01	N/D	N/D	<0.01	N/A
Chromium	¹ 5.0	N/D	N/D	<5.0	N/A
Chromium VI	¹ 0.002	N/D	N/D	<0.002	N/A
Cobalt	¹ 0.1	N/D	N/D	<0.1	N/A
Lead	² 0.6/0.01	N/D	N/D	<0.01	N/A
Manganese	¹ 0.5	N/D	N/D	<0.5	N/A
Mercury	¹ 0.01	N/D	N/D	<0.01	N/A
Nickel	¹ 1.0	N/D	N/D	<1.0	N/A
Selenium	¹ 0.1	N/D	N/D	<0.1	N/A
Other Individual HAP	10.0/SMAL	N/D	N/D	<10.0/SMAL	N/A

N/A = Not Applicable; N/D = Not Determined

Note 1: SMAL

Note 2: Lead is also a criteria pollutant. The de minimis level is 0.6 tpy while the SMAL is 0.01 tpy.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Audubon Mateirals LLC - Sugar Creek Cement Plant shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
 - *Standards of Performance for Portland Cement Plants*, 40 CFR Part 60, Subpart F
- *MACT Regulations*, 10 CSR 10-6.075
 - *National Emission Standards from the Portland Cement Manufacturing Industry*, 40 CFR Part 63, Subpart LLL
- *NESHAP Regulations*, 10 CSR 10-6.080
 - *National Emissions Standard for Mercury*, 40 CFR Part 61, Subpart E
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 18, 2015, received September 22, 2015, designating Audubon Materials LLC as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Appendix A: List of SMAL Values

Chemical	CAS #	SMAL (tons)	VOC	PM	Synonyms
ACETALDEHYDE	75-07-0	9	Y	N	ACETIC ALDEHYDE, ALDEHYDE, ETHANAL, ETHYL ALDEHYDE
ACETAMIDE	60-35-5	1	Y	N	ACETIC ACID AMIDE, ETHANAMIDE
ACETONITRILE	75-05-8	4	Y	N	METHYL CYANIDE, ETHANENITRILE, CYANOMETHANE
ACETOPHENONE	98-86-2	1	Y	N	ACETYL BENZENE, METHYL PHENYL KETONE AND HYPNONE
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	Y	Y	N-2-FLUORENYL ACETAMIDE, N-FLUOREN-2-YL ACETAMIDE, 2-ACETAMIDOFLUORENE
ACROLEIN	107-02-8	0.04	Y	N	ACRYLALDEHYDE, ACRYLIC ALDEHYDE, ALLYL ALDEHYDE, PROPENAL
ACRYLAMIDE	79-06-1	0.02	Y	N	PROPENAMIDE, ACRYLIC AMIDE, ACRYLAMIDE MONOMER, ETHYLENECARBOXAMIDE
ACRYLIC ACID	79-10-7	0.6	Y	N	PROPENOIC ACID, ETHYLENE CARBOXYLIC ACID, VINYLFORMIC ACID
ACRYLONITRILE	107-13-1	0.3	Y	N	VINYL CYANIDE, CYANOETHYLENE, PROPENE NITRILE, AN
ALLYL CHLORIDE	107-05-1	1	Y	N	1-CHLORO-2-PROPENE, 3-CHLOROPROPYLENE, CHLORALLYLENE, ALPHA-PROPYLENE
AMINOBIIPHENYL, [4-]	92-67-1	1	Y	N	BIPHENYL, P-PHENYLANILINE, XENYLAMINE, 4-AMINODIPHENYL, 4-BIPHENYLAMINE
ANILINE	62-53-3	1	Y	N	AMINO BENZENE, PHENYLAMINE, ANILINE OIL, AMINOPHEN, ARYLAMINE
ANISIDINE, [ORTHO-]	90-04-0	1	Y	N	O-METHOXYANILINE
ANTHRACENE	120-12-7	0.01	Y	N	ANTHRACIN, GREEN OIL, PARANAPHTHALENE, TETRAOLIVE N2G
ANTIMONY	7440-36-0	5	N	Y	ANTIMONY BLACK, ANTIMONY REGULUS, C.I. 77050, STIBIUM
ANTIMONY COMPOUNDS		5	N	Y	ANTIMONY (PENTACHLORIDE, TRIBROMIDE, TRICHLORIDE, TRIFLUORIDE)
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	N	Y	
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	N	Y	
ANTIMONY TRIOXIDE	1309-64-4	1	N	Y	
ANTIMONY TRISULFIDE	1345-04-6	0.1	N	Y	
ARSENIC (INORGANIC)	7440-38-2	0.005	N	Y	ARSENICALS, ARSENIC-75, ARSENIC BLACK, METALLIC ARSENIC, COLLOIDAL ARSENIC
ARSENIC COMPOUNDS (INORGANIC + ARSINE)		0.005	N	Y	ARSENIC (DIETHYL, DISULFIDE, PENTOXIDE, TRICHLORIDE, TRIOXIDE, TRISULFIDE)

ASBESTOS	1332-21-4	0	N	Y	CHRYBOTILE, AMOSITE, CROCIDOLITE, TREMOLITE, ANTHOPHYLLITE, ACTINOLITE
ASBESTOS, AMOSITE	1332-21-4	0	N	Y	ASBESTOS FIBER, MINERAL SILICATE FIBER
ASBESTOS, CHRYBOTILE	1332-21-4	0	N	Y	ASBESTOS FIBER, MINERAL SILICATE FIBER
ASBESTOS, CROCIDOLITE	1332-21-4	0	N	Y	ASBESTOS FIBER, MINERAL SILICATE FIBER
ASBESTOS, OTHER FORMS	1332-21-4	0	N	Y	ASBESTOS FIBER, MINERAL SILICATE FIBER
BARIUM CYANIDE	542-62-1	5	Y	N	BARIUM DICYANIDE
BENZ(A)ANTHRACENE	56-55-3	0.01	Y	N	BENZANTHRENE, BENZO(A)ANTHRACENE, BENZPHENANTHRENE, NAPHTHANTHRACENE
BENZENE	71-43-2	2	Y	N	BENZOL, PHENYL HYDRIDE, COAL NAPHTHA, PHENE, BENXOLE, CYCLOHEXATRIENE
BENZIDINE	92-87-5	0.0003	Y	N	4,4'-BIPHENYLDIAMINE, P-DIAMINODIPHENYL, 4,4'-DIAMINOBIIPHENYL, BENZIDINE BASE
BENZO(A)PYRENE	50-32-8	0.01	Y	N	3,4-BENZOPYRENE
BENZO(B)FLUORANTHENE	205-99-2	0.01	Y	N	
BENZO(K)FLUORANTHENE	207-08-9	0.01	Y	N	
BENZOTRICHLORIDE	98-07-7	0.006	Y	N	BENZOIC TRICHLORIDE, PHENYL CHLOROFORM, TRICHLOROMETHYLBENZENE
BENZYL CHLORIDE	100-44-7	0.1	Y	N	ALPHA-CHLOROTOLUENE, TOLYL CHLORIDE
BERYLLIUM	7440-41-7	0.008	N	Y	BERYLLIUM-9, GLUCINUM
BERYLLIUM COMPOUNDS		0.008	N	Y	
BERYLLIUM SALTS		0.00002	N	Y	
BIPHENYL, [1,1-]	92-52-4	10	Y	N	DIPHENYL, PHENYLBENZENE
BIS(CHLOROETHYL)ETHER	111-44-4	0.06	Y	N	DICHLOROETHYL ETHER, DICHLOROETHER, DICHLOROETHYL OXIDE, BCEE
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003	Y	N	BCME, SYM-DICHLOROMETHYL ETHER, DICHLOROMETHYL ETHER, OXYBIS-(CHLOROMETHANE)
BROMOFORM	75-25-2	10	Y	N	TRIBROMOMETHANE, METHYL TRIBROMIDE
BROMOMETHANE	74-83-9	10	Y	N	METHYL BROMIDE
BUTADIENE, [1,3-]	106-99-0	0.07	Y	N	BIETHYLENE, BIVINYL, BUTADIENE MONOMER, DIVINYL ERYTHRENE, VINYLETHYLENE
BUTYLENE OXIDE, [1,2-]	106-88-7	1	Y	N	1,2-EPOXYBUTANE, 1-BUTENE OXIDE, 1,2-BUTENE OXIDE
CADMIUM	7440-43-9	0.01	N	Y	C.I. 77180
CADMIUM COMPOUNDS		0.01	N	Y	CADMIUM(DUST, FUME, ACETATE, CHLORATE, CHLORIDE, FLUORIDE, OXIDE, SULFATE, SULFIDE)
CALCIUM CHROMATE (ANHYDROUS)	13765-19-0	0.002	N	Y	CHROMIC ACID CALCIUM SALT, CALCIUM CHROME YELLOW, CI.PIGMENT YELLOW 33, GELBIN
CALCIUM CYANAMIDE	156-62-7	10	Y	Y	NITROLIME, CALCIUM CARBIMIDE, CYANAMIDE
CAPROLACTAM (Delisted)	105-60-2				HEXAHYDRO-2H-AZEPIN-2-ONE, AMINOCAPROIC LACTAM, EPSILON-CAPROLACTAM

CAPTAN	133-06-2	10	Y	Y	N-TRICHLOROMETHYLMERCAPTO-4-CYCLOHEXENE-1,2-DICARBOXIMIDE
CARBARYL	63-25-2	10	Y	Y	1-NAPHTHYL-N-METHYLCARBAMATE
CARBON DISULFIDE	75-15-0	1	Y	N	CARBON BISULFIDE, DITHIOCARBONIC ANHYDRIDE
CARBON TETRACHLORIDE	56-23-5	1	Y	N	TETRACHLOROMETHANE, PERCHLOROMETHANE
CARBONYL SULFIDE	463-58-1	5	Y	N	CARBON OXIDE SULFIDE, CARBONOXYSULFIDE
CATECHOL	120-80-9	5	Y	N	PYROCATECHOL, O-DIHYDROXYBENZENE
CHLORAMBEN	133-90-4	1	Y	Y	3-AMINO-2,5-DICHLORO BENZOIC ACID, AMBEN, AMIBEN*, VEGIBEN* (*TRADEMARK)
CHLORDANE	57-74-9	0.01	Y	Y	ENT9932, OCTACHLOR
CHLORINE	7782-50-5	0.1	N	N	BERTHOLITE
CHLORINE CYANIDE	506-77-4	5	Y	N	CYANOGEN CHLORIDE, CHLORO CYANOGEN, CHLOROCYAN
CHLOROACETIC ACID	79-11-8	0.1	Y	N	MONOCHLOROACETIC ACID, CHLOROETHANOIC ACID
CHLOROACETOPHENONE, [2-]	532-27-4	0.06	Y	N	PHENACYL CHLORIDE, CHLOROMETHYL PHENYL KETONE, TEAR GAS, MACE
CHLOROBENZENE	108-90-7	10	Y	N	BENZENE CHLORIDE, MONOCHLORO BENZENE, CHLOROBENZOL, PHENYL CHLORIDE, MCB
CHLOROBENZILATE	510-15-6	0.4	Y	Y	ETHYL-4,4'-DICHLORO BENZILATE, ETHYL-4,4'-DICHLOROPHENYL GLYCOLLATE
CHLOROFORM	67-66-3	0.9	Y	N	TRICHLOROMETHANE
CHLOROMETHYL METHYL ETHER	107-30-2	0.1	Y	N	CMME, METHYL CHLOROMETHYL ETHER, CHLOROMETHOXYMETHANE, MONOCHLOROMETHYL ETHER
CHLOROPRENE	126-99-8	1	Y	N	2-CHLORO-1,3-BUTADIENE, CHLORO BUTADIENE, NEOPRENE RUBBER COUMPOUND
CHROMIC ACID	7738-94-5	0.002	N	Y	
CHROMIC CHLORIDE	10025-73-7	0.1	N	Y	
CHROMIUM	7440-47-3	5	N	Y	CHROMIUM METAL
CHROMIUM (III) COMPOUNDS		5	N	Y	CHROMIUM(III) [ACETATE, BROMIDE, FLUORIDE, NITRATE, OXIDE, SULFATE]
CHROMIUM (VI) COMPOUNDS		0.002	N	Y	CHROMATE(VI)[LEAD, BILITHIUM, TRIOXIDE, PHOSPHATE, POTASSIUM, ZIN C]
CHROMIUM COMPOUNDS		5	N	Y	CHROMIUM, CHROMIUM(II) COMPOUNDS
CHRYSENE	218-01-9	0.01	Y	N	
COBALT	7440-48-4	0.1	N	Y	SEE SPECIFIC COBALT COMPOUNDS
COBALT COMPOUNDS		0.1	N	Y	COBALT(BROMIDE, CARBOYL, CHLORIDE, DIACETATE, FORMATE, NITRATE ,OXIDE, SULFAMATE)
COKE OVEN EMMISIONS	8007-45-2	0.03	Y	N	COAL TAR, COAL TAR PITCH, COAL TAR DISTILLATE
COPPER CYANIDE	544-92-3	5	Y	N	CUPRICIN, CUPROUS CYANIDE
CRESOL, [META-]	108-39-4	1	Y	N	3-CRESOL, M-CRESYLIC ACID, 1-HYDROXY-3-METHYLBENZENE, M-HYDROXYTOLUENE

CRESOL, [ORTHO-]	95-48-7	1	Y	N	2-CRESOL, O-CRESOLIC ACID, 1-HYDROXY-2-METHYLBENZENE, 2-METHYLPHENOL
CRESOL, [PARA-]	106-44-5	1	Y	N	4-CRESOL, P-CRESYLIC ACID, 1-HYDROXY-4-METHYLBENZENE, 4-HYDROXYTOLUENE
CRESOLS (MIXED ISOMERS)	1319-77-3	1	Y	N	CRESYLIC ACID
CUMENE	98-82-8	10	Y	N	ISOPROPYL BENZENE, 2-PHENYLPROPANE
CYANIDE COMPOUNDS		5	Y	N	
CYANOGEN	460-19-5	5	Y	N	DICYANOGEN, DICYAN, ETHANEDINITRILE, OXALONITRILE
CYANOGEN BROMIDE	506-68-3	5	Y	N	BROMINE CYANIDE, BROMOCYANOGEN,
DDE	72-55-9	0.01	Y	Y	DICHLORODIPHENYLDICHLOROETHYLENE
DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5	Y	N	DI(2-ETHYLHEXYL)PHTHALATE, DOP, DI-SEC-OCTYL PHTHALATE
DIAMINOTOLUENE, [2,4-]	95-80-7	0.02	Y	N	2,4-TOLUENE DIAMINE, 3-AMINO-PARA-TOLUIDINE, 5-AMINO-ORTHO-TOLUIDINE
DIAZOMETHANE	334-88-3	1	Y	N	AZIMETHYLENE, DIAZIRINE
DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	Y	N	1,2,5,6-BENZANTHRACENE, DIBENZO(A,H)ANTHRACENE
DIBENZODIOXINS AND DIBENZOFURANS		6E-07	Y	N	
DIBENZOFURAN	132-64-9	5	Y	N	DIPHENYLENE OXIDE
DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01	Y	N	DBCP
DIBROMOETHANE, [1,2-]	106-93-4	0.1	Y	N	ETHYLENE DIBROMIDE, ETHYLENE BROMIDE, SYM-DIBROMOETHANE
DIBUTYL PHTHALATE	84-74-2	10	Y	Y	DBP, DIBUTYL 1,2-BENZENEDICARBOXYLATE, DI-N-BUTYL PHTHALATE
DICHLOROBENZENE, [1,4-]	106-46-7	3	Y	N	1,4-DICHLORO-P-DCB, 1,4-DCB, PDB, PDCB
DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	Y	Y	4,4'-DIAMINO-3,3'-DICHLOROBIPHENYL, 3,3'-DICHLOROBIPHENYL-4,4'-DIAMINE, DCB
DICHLOROETHANE, [1,1-]	75-34-3	1	Y	N	ETHYLIDENE DICHLORIDE, 1,1-ETHYLIDENE DICHLORIDE, ASYMMETRICAL DICHLOROETHANE
DICHLOROETHANE, [1,2-]	107-06-2	0.8	Y	N	ETHYLENE DICHLORIDE, 1,2-DICHLOROETHANE, GLYCOL DICHLORIDE, ETHYLENE CHLORIDE
DICHLOROETHYLENE, [1,1-]	75-35-4	0.4	Y	N	VINYLDENE CHLORIDE, DCE, VDC
DICHLOROMETHANE	75-09-2	10	N	N	METHYLENE CHLORIDE, METHANE DICHLORIDE
DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	Y	Y	2,4-D ACID
DICHLOROPROPANE, [1,2-]	78-87-5	1	Y	N	PROPYLENE DICHLORIDE
DICHLOROPROPENE, [1,3-]	542-75-6	1	Y	N	1,3-DICHLOROPROPYLENE, ALPHA-CHLORALLYL CHLORIDE
DICHLORVOS	62-73-7	0.2	Y	N	DDVP, 2,2-DICHLOROVINYLDIMETHYLPHOSPHATE

DIETHANOLAMINE	111-42-2	5	Y	N	BIS(2-HYDROXYETHYL)AMINE,2,2'-DIHYDROXYDIETHYLAMINE,DI(2-HYDROXYETHYL)AMINE
DIETHYL SULFATE	64-67-5	1	Y	N	DIETHYL ESTER SULFURIC ACID, ETHYL SULFATE
DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	Y	N	2-(2-BUTOXYETHOXY)ETHANOL, BUTYL CARBITOL, BUTYL DIGOL
DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	Y	Y	FAST BLUE B BASE, DIANISIDINE, O-DIANISIDINE
DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	Y	Y	O-TOLIDINE, BIANISIDINE, 4,4'-DIAMINO-3,3'DIMETHYLBIPHENYL,DIAMINODITOYL
DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02	Y	N	DMCC, CHLOROFORMIC ACID DIMETHYL AMIDE, DIMETHYL CARBAMYL CHLORIDE
DIMETHYL FORMAMIDE	68-12-2	1	Y	N	DMF, FORMYLDIMETHYLAMINE
DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008	Y	N	UNSYMMETRICAL DIMETHYLHYDRAZINE, UDMH, Dimazine
DIMETHYL PHTHALATE	131-11-3	10	Y	N	PHTHALIC ACID, DIMETHYL ESTER, DIMETHYL 1,2-BENZENEDICARBOXYLATE, DMP
DIMETHYL SULFATE	77-78-1	0.1	Y	N	SULFURIC ACID DIMETHYL ESTER, METHYL SULFATE, DMS
DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1	Y	N	N,N-DIMETHYL-P-PHENYLAZO-ANILINE, BENZENEAZO DIMETHYLANILINE
DIMETHYLANILINE, [N-N-]	121-69-7	1	Y	N	N,N-DIETHYL ANILINE, N,N-DIMETHYLPHENYLAMINE, DMA
DINITRO-O-CRESOL, [4,6-]	534-52-1	0.1	Y	Y	DNOC, 3,5-DINITRO-O-CRESOL, 2-METHYL-4,6-DINITROPHENOL
DINITROPHENOL, [2,4-]	51-28-5	1	Y	N	DNP
DINITROTOLUENE, [2,4-]	121-14-2	0.02	Y	N	DINITROTOLUOL, DNT, 1-METHYL-2,4-DINITROBENZENE
DIOXANE, [1,4-]	123-91-1	6	Y	N	1,4-DIETHYLENEOXIDE, DIETHYLENE ETHER, P-DIOXANE
DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	Y	Y	HYDRAZOBENZENE, N,N'-DIPHENYLHYDRAZINE, N,N'-BIANILINE, 1,1'-HYDRODIBENZENE
DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	Y	N	METHYLENE BIS(PHENYLISOCYANATE), METHYLENE DIPHENYL DIISOCYANATE, (MDI)
EPICHLOROHYDRIN	106-89-8	2	Y	N	1-CHLORO-2,3-EPOXYPROPANE, EPI, CHLOROPROPYLENE OXIDE, CHLOROMETHYLOXIRANE
ETHOXYETHANOL, [2-]	110-80-5	10	Y	N	CELLOSOLVE SOLVENT, ETHYLENE GLYCOL MONOETHYL ETHER
ETHYL ACRYLATE	140-88-5	1	Y	N	ETHYL PROPENOATE, ACRYLIC ACID ETHYL ESTER
ETHYL BENZENE	100-41-4	10	Y	N	ETHYLBENZOL, PHENYLETHANE,EB
ETHYL CHLORIDE	75-00-3	10	Y	N	CHLOROETHANE, MONOCHLOROETHANE, HYDROCHLORIC ETHER
ETHYLENE GLYCOL	107-21-1	10	Y	N	1,2-ETHANEDIOL, GLYCOL ALCOHOL, GLYCOL, EG
ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				BUTYL CELLOSOLVE, 2-BUTOXYETHANOL
ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003	Y	N	AZACYCLOPROPANE, DIMETHYLENEIMINE, ETHYLENIMINE, VINYLAMINE, AZIRANE

ETHYLENE OXIDE	75-21-8	0.1	Y	N	1,2-EPOXYETHANE, OXIRANE, DIMETHYLENE OXIDE, ANPROLENE
ETHYLENE THIOUREA	96-45-7	0.6	Y	Y	2-IMIDAZOLIDINETHIONE, ETU
FORMALDEHYDE	50-00-0	2	Y	N	OXYMETHYLENE, FORMIC ALDEHYDE, METHANAL, METHYLENE OXIDE, OXOMETHANE
GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	Y	N	
GLYCOL ETHER(DIETHYLENE GLYCOL ETHERS)		5	Y	N	
HEPTACHLOR	76-44-8	0.02	Y	N	1,4,5,6,7,8,8A-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO-4,7-METHANOINDIENE
HEXACHLOROBENZENE	118-74-1	0.01	Y	N	PERCHLOROBENZENE, HCB, PENTACHLOROPHENYL BENZENE, PHENYL PERCHLORYL
HEXACHLOROBUTADIENE	87-68-3	0.9	Y	N	PERCHLOROBUTADIENE, 1,3-HEXACHLOROBUTADIENE, HCB
HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	Y	N	BENZENE HEXACHLORIDE-alpha isomer, ENT-9232, ALPHA-LINDANE, ALPHA-BHC
HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	Y	N	trans-alphaBENZENEHEXACHLORIDE,BETA-BHC,BETA-LINDANE,BETA-HEXACHLOROBENZENE
HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	Y	N	delta-BENZENE HEXACHLORIDE, DELTA-BHC, DELTA-LINDANE, ENT 9236
HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	Y	N	BENZENE HEXACHLORIDE, HCH, BHC, ENT 8601, GAMMEXANE, COMPOUND-666
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1	Y	N	HCCPD, HEX
HEXACHLORODIBENZO-P-DIOXIN (MIXTURE)	19408-74-3	6E-07	Y	N	HxCDD, 1,2,3,6,7,8-HEXACHLORO-DIBENZO-p-DIOXIN [or 1,2,3,7,8,9-HEXACHLORO-]
HEXACHLOROETHANE	67-72-1	5	Y	N	PERCHLOROETHANE, CARBON HEXACHLORIDE, HCE, 1,1,1,2,2,2-HEXACHLOROETHANE
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02	Y	N	1,6-DIISOCYANATOHEXANE, 1,6-HEXANEDIOL DISOCYANATE
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01	Y	N	HEXAMETHYLPHOSPHORIC TRIAMIDE, HEMPA, HEXAMETAPOL,HEXAMETHYLPHOSPHORAMIDE
HEXANE, [N-]	110-54-3	10	Y	N	HEXANE, NCI-c60571
HYDRAZINE	302-01-2	0.004	N	N	METHYLHYDRAZINE, DIAMIDE, DIAMINE, HYDRAZINE BASE
HYDROGEN CHLORIDE	7647-01-0	10	N	N	HYDROCHLORIC ACID, MURIATIC ACID, ANHYDROUS HYDROCHLORIC ACID
HYDROGEN CYANIDE	74-90-8	5	Y	N	HYDROCYANIC ACID, PRUSSIC ACID, CYCLONE B, ZACLON DISCOIDS
HYDROGEN FLUORIDE	7664-39-3	0.1	N	N	HYDROFLUORIC ACID GAS, FLUOROHYDRIC ACID GAS, ANHYDROUS HYDROFLUORIC ACID

HYDROQUINONE	123-31-9	1	Y	N	QUINOL, HYDROQUINOL, P-DIPHENOL, 1,4-BENZENEDIOL, HYDROCHINONE, ARCTUVIN
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	Y	N	
ISOPHORONE	78-59-1	10	Y	N	3,3,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE, TRIMETHYLCYCLOHEXONE, ISOACETOPHORONE
LEAD	7439-92-1	0.01	N	Y	LEAD FLAKE, LEAD S2, C.I.77575, LEAD ELEMENTAL
LEAD ACETATE	301-04-2	0.01	N	Y	SUGAR OF LEAD, ACETIC ACID LEAD(2+) SALT, PLUMBOUS ACETATE, SALT OF SATURN
LEAD COMPOUNDS		0.01	N	Y	LEAD (ARSENATE, CHLORIDE, FLUORIDE, IODIDE, NITRATE, SULFATE, SULFIDE)
LEAD SUBACETATE	13335-32-6	0.01	N	Y	
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	Y	N	BENZENE HEXACHLORIDE-GAMMA ISOMER
MALEIC ANHYDRIDE	108-31-6	1	Y	N	2,5-FURANEDIENE, CIS-BUTENEDIOIC ANHYDRIDE, TOXILIC ANHYDRIDE
MANEB	12427-38-2	0.8	N	Y	VANCIDE, MANGANESE 1,2-ETHANEDIYLBIS(CARBAMODITHIOATE) COMPLEX, ENT14875, MEB
MANGANESE	7439-96-5	0.8	N	Y	COLLOIDAL MANGANESE
MANGANESE COMPOUNDS		0.8	N	Y	MANGANESE (ACETATE, CHLORIDE, DIOXIDE, (II)-OXIDE, (III)-OXIDE, (II)-SULFATE)
MERCURY (ELEMENTAL)	7439-97-6	0.01	N	N	COLLOIDAL MERCURY, QUICK SILVER, NCI-c60399
MERCURY COMPOUNDS (ALKYL & ARYL)		0.01	N	N	MERCURY COMPOUNDS (ETHYL-, PHENYL-)
MERCURY COMPOUNDS (INORGANIC)		0.01	N	N	MERCURY (CHLORIDE, CYANIDE, (I,II)-[BROMIDE, IODIDE, NITRATE, SULFATE], OXIDE)
METHANOL	67-56-1	10	Y	N	METHYL ALCOHOL, CARBINOL, WOOD ALCOHOL, WOOD SPIRIT
METHOXYCHLOR	72-43-5	10	Y	Y	2,2-BIS(P-METHOXYPHENYL)-1,1,1-TRICHLOROETHANE, DIMETHOXY-DDT
METHOXYETHANOL, [2-]	109-86-4	10	Y	N	ETHYLENE GLYCOL MONOMETHYL ETHER, METHYL CELLOSOLVE,
METHYL CHLORIDE	74-87-3	10	Y	N	CHLOROMETHANE, MONOCHLOROMETHANE
METHYL ETHYL KETONE (Delisted)	78-93-3				2-BUTANONE, MEK, BUTANONE, ETHYL METHYL KETONE
METHYL HYDRAZINE	60-34-4	0.06	Y	N	MONOMETHYLHYDRAZINE, HYDROZOMETHANE, 1-METHYLHYDRAZINE
METHYL IODIDE	74-88-4	1	Y	N	IDOMETHANE
METHYL ISOBUTYL KETONE	108-10-1	10	Y	N	HEXONE, 4-METHYL-2-PENTANONE, ISOBUTYL METHYL KETONE, MIBK
METHYL ISOCYANATE	624-83-9	0.1	Y	N	ISOCYANATOMETHANE, ISOCYANIC ACID, METHYL ESTER

METHYL MERCURY	22967-92-6	0.01	N	N	MERCURY (1+) METHYL ION, METHYLMERCURY(II) CATION, METHYLMERCURY ION
METHYL METHACRYLATE	80-62-6	10	Y	N	METHYL 2-METHYL-2-PROPENOATE, METHACRYLIC ACID METHYL ESTER, MME
METHYL TERT-BUTYL ETHER	1634-04-4	10	Y	N	MTBE
METHYLCYCLCOPENTADIENYL MANGANESE	12108-13-3	0.1	N	Y	
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	Y	Y	CURENE, MOCA, 4,4'-DIAMINO-3-3'-DICHLORODIPHENYLMETHANE
METHYLENEDIANILINE, [4,4-]	101-77-9	1	Y	N	4,4'-DIAMINODIPHENYLMETHANE, DDM, MDA, BIS(4-AMINOPHENYL)METHANE, DAPM
MINERAL FIBERS	TP14	0	N	Y	
NAPHTHALENE	91-20-3	10	Y	N	NAPHTHALIN, MOTH FLAKE, TAR CAMPHOR, WHITE TAR, MOTH BALLS
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	Y	N	1-NAPHTHYLAMINE, 1-AMINONAPHTHALENE, NAPHTHALIDINE
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	Y	N	2-AMINONAPHTHALENE, 6-NAPHTHYLAMINE, 2-NAPHTHYLAMINE MUSTARD
NICKEL	7440-02-0	1	N	Y	C.I.77775, NICKEL CATALYST WET , NICKEL SPONGE, RANEY ALLOY, RANEY NICKEL
NICKEL CARBONYL	13463-39-3	0.1	N	Y	NICKEL TETRACARBONYL
NICKEL COMPOUNDS		1	N	Y	NICKEL(ACETATE,AMMONIUM SULFATE,CHLORIDE,HYDROXIDE,NITRATE,SULFATE)
NICKEL OXIDE	1313-99-1	1	N	Y	NICKEL(II) OXIDE, BUNSENITE, C.I.77777, NICKELOUS OXIDE, NICKEL PROTOXIDE
NICKEL REFINERY DUST		0.08	N	Y	NICKEL DUST, CAS #7440-02-0, NICKEL PARTICLES
NICKEL SUBSULFIDE	12035-72-2	0.04	N	Y	NICKEL SULPHIDE, HEAZLEWOODITE, NICKEL TRITADISULPHIDE
NITROBENZENE	98-95-3	1	Y	N	NITROBENZOIL, OIL OF MIRBANE, OIL OF BITTER ALMONDS
NITROBIPHENYL, [4-]	92-93-3	1	Y	N	4-NITRODIPHENYL, P-NITROBIPHENYL, P-NITROPHENYL, PNB
NITROPHENOL, [4-]	100-02-7	5	Y	N	4-HYDROXYNITROBENZENE, PARA-NITROPHENOL
NITROPROPANE, [2-]	79-46-9	1	Y	N	DIMETHYLNITROMETHANE, SEC-NITROPROPANE, ISONITROPROPANE, NITROISOPROPANE
NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001	Y	N	DIMETHYLNITROSAMINE, DMN, DMNA
NITROSOMORPHOLINE, [N-]	59-89-2	1	Y	N	4-NITROSOMORPHOLINE
NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002	Y	N	N-METHYL-N-NITROSOUREA, N-NITROSO-N-METHYLCARBAMIDE
OCTACHLORONAPHTHALENE	2234-13-1	0.01	Y	N	HALOWAX 1051
PARATHION	56-38-2	0.1	Y	Y	DNTP, MONOTHIOPHOSPHATE, DIETHYL-p-NITROPHENYL

PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	Y	Y	AROCLORS.
PENTACHLORONITROBENZENE	82-68-8	0.3	Y	N	QUINTOBENZENE, PCNB, QUINIOZENE
PENTACHLOROPHENOL	87-86-5	0.7	Y	N	PCP, PENCHOROL, PENTACHLOROPHENATE, 2,3,4,5,6-PENTACHLOROPHENOL
PHENOL	108-95-2	0.1	Y	N	CARBOLIC ACID, PHENIC ACID, PHENYLIC ACID, PHENYL HYDRATE, HYDROXYBENZENE
PHENYL MERCURIC ACETATE	62-38-4	0.01	N	N	ACETOXYPHENYLMERCURY, (ACEATO)PHENYLMERCURY,(ACETOXYMERCURI)BENZENE,CERESAN
PHENYLENEDIAMINE, [PARA-]	106-50-3	10	Y	N	P-AMINOANILINE, 1,4-DIAMINO BENZENE, BENZENEDIAMINE, PARA
PHOSGENE	75-44-5	0.1	Y	N	CARBONYL CHLORIDE, CARBON OXYCHLORIDE, CARBONIC ACID DICHLORIDE
PHOSPHINE	7803-51-2	5	N	N	HYDROGEN PHOSPHIDE, PHOSPHORETTED HYDROGEN, PHOSPHORUS TRIHYDRIDE
PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1	N	N	COMMON SENSE COCKROACH AND RAT PREPARATIONS
PHTHALIC ANHYDRIDE	85-44-9	5	Y	N	PHTHALIC ACID ANHYDRIDE,BENZENE-O-DICARBOXYLIC ACID ANHYDRIDE,PHTHALANDIONE
POLYCYCLIC ORGANIC MATTER	TP15	0.01	Y	N	PAH, POLYAROMATIC HYDROCARBONS, POM
POTASSIUM CYANIDE	151-50-8	0.1	Y	N	HYDROCYANIC ACID POTASIAM SALT, POTASSIUM CYANIDE(LIQUID OR SOLID), KCN
POTASSIUM SILVER CYANIDE	506-61-6	5	Y	N	SILVER POTASSIUM CYANIDE
PROPANE SULTONE, [1,3-]	1120-71-4	0.03	Y	Y	1,2-OXATHIOLANE-2,2-DIOXIDE, 3-HYDROXY-1-PROPANESULPHONIC ACID SULTONE
PROPIOLACTONE, [BETA-]	57-57-8	0.1	Y	N	2-OXETANONE, PROPIOLACTONE, BPL, 3-HYDROXY-B-LACTONE-PROPANOIC ACID
PROPIONALDEHYDE	123-38-6	5	Y	N	PROPANAL, PROPYL ALDEHYDE, PROPIONIC ALDEHYDE
PROPOXUR [BAYGON]	114-26-1	10	Y	Y	O-ISOPROPOXYPHENOL METHYL CARBAMATE, 2-(1-METHYLOXY)PHENOL METHYL CARBAMATE
PROPYLENE OXIDE	75-56-9	5	Y	N	1,2-EPOXYPROPANE, METHYLETHYLENE OXIDE, METHYL OXIRANE, PROPENE OXIDE
PROPYLENEIMINE, [1,2-]	75-55-8	0.003	Y	N	2-METHYL AZIRIDINE, 2-METHYL AZACYCLOPROPANE, METHYLETHYLENEIMINE
QUINOLINE	91-22-5	0.006	Y	N	1-AZANAPHTHALENE, 1-BENZAZINE, BENZO(B)PYRIDINE, CHINOLEINE, LEUCOLINE
QUINONE	106-51-4	5	Y	N	BENZOQUINONE, CHINONE, P-BENZOQUINONE, 1,4-BENZOQUINONE
RADIONUCLIDES (INCLUDING RADON) (Note 1)	TP16		N	Y	
RADIUM 226,228 (Note 1)	7440-14-4		N	Y	

RADON 222 (Note 1)	14859-67-7		N	Y	
SELENIOUS ACID	7783-00-8	0.1	N	Y	SELENOUS ACID
SELENIUM	7782-49-2	0.1	N	Y	SELENIUM ALLOY, SELENIUM BASE, C.I.77805, SELNIUM HOMOPOLYMER,SELENIUM DUST
SELENIUM COMPOUNDS		0.1	N	Y	SELENIUM (DIOXIDE, DISULFIDE, HEXAFLUORIDE)
SELENIUM SULFIDE	7446-34-6	0.1	N	Y	SELENIUM MONOSULFIDE, NCI-c50033
SELENOUREA	630-10-4	0.1	N	Y	CARBAMIMIDOSELENOIC ACID, ISOSELENOUREA, 2-SELENOUREA, SELENOURIUM
SILVER CYANIDE	506-64-9	5	Y	N	UN 1684
SODIUM CYANIDE	143-33-9	0.1	Y	N	HYDROCYANIC ACID SODIUM SALT, CYANIDE OF SODIUM, NaCN
STYRENE	100-42-5	1	Y	N	CINNAMENE, CINNAMOL, PHENETHYLENE, PHENYLETHYLENE, VINYL BENZENE
STYRENE OXIDE	96-09-3	1	Y	N	EPOXYETHYLBENZENE, PHENYLETHYLENE OXIDE, PHENYL OXIRANE, EPOXYSTYRENE
TETRACHLORODIBENZO-P-DIOXIN, [2,3,7,8-]	1746-01-6	6E-07	Y	Y	TCDD
TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3	Y	N	SYM-TETRACHLOROETHANE, ACETYLENE TETRACHLORIDE, ETHANE TETRACHLORIDE
TETRACHLOROETHYLENE	127-18-4	10	N	N	PERCHLOROETHYLENE, CARBON DICHLORIDE, ETHYLENE TETRACHLORIDE, PCE, PERCLENE
TETRAETHYL LEAD	78-00-2	0.01	N	Y	TEL,LEAD TETRAETHYL, TETRAETHYLPLUMBANE, NCI-c54988
THALLIUM SELENITE	12039-52-0	0.1	N	Y	THALLIUM SELENIDE, THALLIUM MONOSELENIDE
TITANIUM TETRACHLORIDE	7550-45-0	0.1	N	N	TITANIUM CHLORIDE
TOLUENE	108-88-3	10	Y	N	TOLUOL, METHYLBENZENE, PHENYLMETHANE, METHYLBENZOL
TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1	Y	N	TDI, TOLYLENE DIISOCYANATE, DIISOCYANATOLUENE
TOLUIDINE, [ORTHO-]	95-53-4	4	Y	N	ORTHO-AMINOTOLUENE, ORTHO-METHYLANILINE, 1-METHYL-1,2-AMINOBENZENE
TOXAPHENE	8001-35-2	0.01	Y	N	CHLORINATED CAMPHENE, CAMPHECHLOR, POLYCHLORCAMPHENE
TRICHLORO BENZENE, [1,2,4-]	120-82-1	10	Y	N	UNSYM-TRICHLORO BENZENE
TRICHLOROETHANE, [1,1,1-]	71-55-6	10	N	N	METHYL CHLOROFORM
TRICHLOROETHANE, [1,1,2-]	79-00-5	1	Y	N	VINYL TRICHLORIDE, BETA-TRICHLOROETHANE
TRICHLOROETHYLENE	79-01-6	10	Y	N	ETHYLENE TRICHLORIDE, ETHINYL TRICHLORIDE, TRICHLOROETHENE, TRI, TCE
TRICHLOROPHENOL, [2,4,5-]	95-95-4	1	Y	N	2,4,5-TCP
TRICHLOROPHENOL, [2,4,6-]	88-06-2	6	Y	N	2,4,6-TCP

TRIETHYLAMINE	121-44-8	10	Y	N	N,N-DIETHYLETHANAMINE, TEA, (DIETHYLAMINO)ETHANE
TRIFLURALIN	1582-09-8	9	Y	Y	2,6-DINITRO-N-N-DIPROPYL-4-(TRIFLUOROMETHYL)BENZENEAMINE
TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5	Y	N	ISOBUTYLTRIMETHYLETHANE, ISOCTANE
URANIUM (NATURAL) (Note 1)	7440-61-1		N	Y	URANIUM METAL
URETHANE [ETHYL CARBAMATE]	51-79-6	0.8	Y	N	ETHYL URETHANE, O-ETHYLURETHANE, LEUCOTHANE, NSC 746, URETHAN
VINYL ACETATE	108-05-4	1	Y	N	ACETIC ACID VINYL ESTER, VINYL ACETATE MONMER, ETHENYL ETHANOATE
VINYL BROMIDE	593-60-2	0.6	Y	N	BROMOETHYLENE, BROMOETHENE
VINYL CHLORIDE	75-01-4	0.2	Y	N	CHLOROETHYLENE, CHLOROETHENE, MONOCHLOROETHYLENE
XYLENE, [META-]	108-38-3	10	Y	N	M-DIMETHYLBENZENE, 1,3-XYLENE, 1,3-DIMETHYLBENZENE, M-XYLOL
XYLENE, [ORTHO-]	95-47-6	10	Y	N	O-XYLOL, O-DIMETHYLBENZENE, O-METHYLTOLUENE, 1,2-XYLENE,1,2-DIMETHYLBENZENE
XYLENE, [PARA-]	106-42-3	10	Y	N	P-DIMETHYLBENZENE, P-METHYLTOLUENE, 1,4-XYLENE, 1,4-DIMETHYLBENZENE,P-XYLOL
XYLENES (MIXED ISOMERS)	1330-20-7	10	Y	N	AROMATIC HYDROCARBONS MIXED, DIMETHYLBENZENE,
ZINC CYANIDE	557-21-1	5	Y	N	ZINC DICYANIDE

APPENDIX B

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Christopher Thrower
Plant Manager
Audubon Materials LLC – Sugar Creek Cement Plant
15100 E. Courtney-Atherton Road
Sugar Creek, MO 64058

RE: New Source Review Permit - Project Number: 2015-09-053

Dear Mr. Thrower:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:cyl

Enclosures

c: Kansas City Regional Office
PAMS File: 2015-09-053

Permit Number: