

Fact Sheet



For Final Renewal Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Number: **R30-09700001-2015**
Application Received: **October 3, 2014**
Plant Identification Number: **097-00001**
Permittee: **Saint-Gobain Ceramics & Plastics, Inc.**
dba. Corhart Refractories
Mailing Address: **Route 10, Box 82**
Buckhannon, WV 26201

Physical Location: Buckhannon, Upshur County, West Virginia
UTM Coordinates: 465.3 km Easting • 4,316.8 km Northing • Zone 17
Directions: Interstate 79 to Exit 99. Proceed east on US Route 33 to Route 151 at
Brushy Fork. Go east on Route 151 to Liggett Avenue. Travel 1/10 mile
to plant on the left.

Facility Description

The Corhart Refractories Buckhannon facility is a non-clay refractory manufacturing facility covered by Standard Industrial Classification (SIC) 3297. The facility has the potential to operate seven (7) days per week, twenty-four (24) hours per day and fifty-two (52) weeks per year. The Title V renewal application encompasses six (6) natural gas fueled dryers, twenty three (23) natural gas fueled kilns, one (1) diesel fueled emergency back-up electrical generator, various pieces of equipment to form articles, one (1) bulk material storage bin, various crushers, screeners, and mixers for material handling, various machines for surface grinding, sawing, milling, drilling, lathes, and packaging equipment.

The operations at the facility are broken up into three product lines, chromium oxide, zirconium silicate (zircon), and tin oxide. All products are used for refractory type applications mainly within the glass industry. The tin oxide, which makes up the smallest fraction of products, is used as a heating electrode. The other products are primarily used to line high temperature glass melting vessels and troughs.

The chromium oxide product is made up of chromium (III) oxide [Cr₂O₃] and small amounts of binder and titanium oxide. These raw materials are blended and pressed into various forms. This green material is

dried and then treated in high temperature kilns for cycles extending from 7 to 28 days. The chromium oxide product utilizes a reducing atmosphere within the kilns, which results in fuel rich burner mixtures.

The Zircon product is made up of zirconium (IV) silicate [ZnSiO₄] and small amounts of binder. This particular product requires a certain percentage of grog, which is pre-fired zirconium silicate that has been pressed and dried and then ground and reintroduced as raw material. Zircon production utilizes isostatic pressing techniques to form various shapes that are then treated in high temperature kilns for cycle times extending from 13 to 50 days.

Tin oxide products also contain small amounts of antimony dioxide and cupric oxide. They are isomolded into shapes and then heat treated in high temperature kilns, which reaches 1480° C, for an 11 day cycle.

After the heat treating process, the products are cut into various shapes, assembled into customer defined geometries like a puzzle and then labeled for shipping.

Emissions Summary

Plantwide Emissions Summary [Tons per Year]		
Regulated Pollutants	Potential Emissions	2013 Actual Emissions
Carbon Monoxide (CO)	112.98	14.1096
Nitrogen Oxides (NO _x)	103	17.8651
Particulate Matter (PM _{2.5})	5.86	2.5322
Particulate Matter (PM ₁₀)	5.86	2.5322
Total Particulate Matter (TSP)	5.86	2.5322
Sulfur Dioxide (SO ₂)	0.48	0.0770
Volatile Organic Compounds (VOC)	75.45	2.684

PM₁₀ is a component of TSP.

Hazardous Air Pollutants	Potential Emissions	2013 Actual Emissions
Total Chromium	0.017	0.00495
Benzene	0.000231	0.0002
Formaldehyde	0.008282	0.0076

Some of the above HAPs may be counted as PM or VOCs.

Title V Program Applicability Basis

This facility has the potential to emit 112.98 tons per year of carbon monoxide (CO) and 103 tons per year of Nitrogen Oxides (NO_x). Due to this facility's potential to emit over 100 tons per year of criteria pollutant, Corhart Refractories is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

This facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR6	Open burning prohibited.
	45CSR7	Particulate matter and opacity limits
	45CSR11	Standby plans for emergency episodes.
	45CSR13	New Source Construction
	WV Code § 22-5-4 (a) (14)	The Secretary can request any pertinent information such as annual emission inventory reporting.
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants.
	40 C.F.R. Part 61	Asbestos inspection and removal
	40 C.F.R. Part 82, Subpart F	Ozone depleting substances substances
	40 CFR Part 63, Subpart ZZZZ	Reciprocating Internal Combustion Engine MACT
State Only:	45CSR4	No objectionable odors.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-2412	11/6/2000	
R13-2433C	10/17/2012	
R13-0412	6/28/78	
R13-0536	1/3/80	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's

operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

This is a second renewal of the Title V permit. The following changes were made to the Title V permit:

40 CFR Part 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines - One (1) Compression Ignition Emergency Diesel Generator (Emission Point ID-048) is subject to subpart ZZZZ. This Emergency Diesel Generator is an existing stationary engine greater than 500 HP located at an Area Source of HAP. Requirements for this subpart were added as conditions 5.1.4, 5.4.2 and 5.5.1 of this permit.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

40 C.F.R. Part 64 – This facility was evaluated for 40C.F.R.64 CAM applicability and was found not to have any pollutant specific emission units which are subject to an emission limitation or standard, use a control device to achieve compliance, and have pre-control device emissions which exceed major source thresholds.

40 C.F.R. 63, subpart DDDDD – National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters (Major Sources). This regulation does not apply to Corhart because the facility is not defined as a major source of HAPs.

40 C.F.R. 63, subpart SSSSS – National Emission Standards for Hazardous Air Pollutants: Refractory Products Manufacturing (Major Sources). This regulation does not apply to Corhart because the facility is not a major source of HAPs.

40 C.F.R. 63, subpart HH – National Emission Standards for Hazardous Air Pollutants: Natural Gas Production Facilities including area sources. Although there is a small TEG unit onsite, the permittee does not operate the unit. The unit is under contract with and operated by the gas company.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: June 3, 2015
Ending Date: July 6, 2015

Point of Contact

All written comments should be addressed to the following individual and office:

Beena Modi
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 1228 • Fax: 304/926-0478
Beena.j.modi@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

EPA's comments on the Draft/Proposed Permit for R30-09700001-2015 were submitted by Paul Wentworth on July 7, 2015. The following changes were made to the Draft/Proposed permit to address EPA comments:

1. The following has been added to condition 4.3.1 of this permit.

“Tests that are required by the Director to determine compliance shall be conducted in accordance with the methods as set forth below. The Director may approve a different test method or approve an alternative method upon written submission of such plan within the protocol submitted under Section 3.3.1.

- Tests to determine compliance with TSP and PM₁₀ emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 5, 5A, 5B, 5C, 5D, 5E, 5F, 5G, or 5H.
- Tests to determine compliance with SO₂ emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 6, 6A, 6B, or 6C.
- Tests to determine compliance with CO emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 10, 10A, or 10B.
- Tests to determine compliance with NO_x emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 7, 7A, 7B, 7C, 7D, or 7E.
- Tests to determine compliance with VOC emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 25, or 25A.”

2. The following has been added to condition 6.3.1 of this permit.

“Tests that are required by the Director to determine compliance shall be conducted in accordance with the methods as set forth below. The Director may approve a different test method or approve an alternative method upon written submission of such plan within the protocol submitted under Section 3.3.1.

- Tests to determine compliance with CO emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 10, 10A, or 10B.
 - Tests to determine compliance with NO_x emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 7, 7A, 7B, 7C, 7D, or 7E.
 - Tests to determine compliance with VOC emission limits shall be conducted in accordance with 40 C.F.R. Part 60 Appendix A Method 25, or 25A.”
3. As a result of the EPA comment, condition 9.1.2 Table has been updated.

Emission Unit ID	Emission Point ID	Emission Unit Description	Control Device	Maximum Allowable PM Emission Limit (lb/hr)
1S	001	Zircon Spray Dryer	Baghouse 001C	0.327

4. As a result of the EPA comments, the company has agreed to increase the frequency of inspections from weekly to daily when the spray dryer is operating. Condition 9.2.2 has been revised to state the following: “Each day that the Zircon Spray Dryer (1S) is operating, the permittee shall inspect the control system to verify that the baghouse (001C) is also operating.”