

Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUL 23 2019

Mr. Tim Davies
Senior Manager, Safety Health and Environmental
Henkel Corporation
201 Highway 10 East
Richmond, MO 64085

RE: New Source Review Permit - Project Number: 2019-02-031

Dear Mr. Davies:

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 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 and your new source review permit application 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

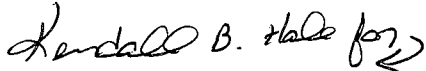


Recycled paper

If you have any questions regarding this permit, please contact Ryan Schott, 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



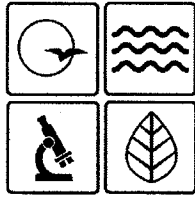
Susan Heckenkamp
New Source Review Unit Chief

SH:rss

Enclosures

c: Kansas City Regional Office
PAMS File: 2019-02-031

Permit Number: **072019-004**



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: 07 2 0 1 9 - 0 0 4 Project Number: 2019-02-031
Installation Number: 177-0037

Parent Company: Henkel US Operations Corporation

Parent Company Address: One Henkel Way, Rocky Hill, CT 06067

Installation Name: Henkel Corporation


Installation Address: 201 Highway 10 East, Richmond, MO 64085

Location Information: Ray County (S31, T52N, R27W)

Application for Authority to Construct was made for:

The rerouting of exhaust from sealant and adhesive batch mixer #13. 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.



Director or Designee
Department of Natural Resources

JUL 23 2019

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of startup of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 source(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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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 to 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 (3)(E) "Conditions required by permitting authority."

Henkel Corporation
Ray County (S31, T52N, R27W)

1. Superseding Condition

The conditions of this permit supersede the following special conditions of construction permits previously issued to Henkel Corporation (formerly Orbseal, LLC) by the Air Pollution Control Program.

- 1) Special Condition 5 Construction Permit No. 0996-012
- 2) Special Condition 3 Construction Permit No. 1297-021

2. Control Device Requirement – Baghouse

A. Henkel Corporation shall control emissions from the following sealant and adhesive batch mixers (classified under EP10) using a baghouse, as specified in the permit application.

- 1) EU88 Mixer #2
- 2) EU89 Mixer #17
- 3) EU90 Mixer #6
- 4) EU91 Mixer #7
- 5) EU92 Mixer #8
- 6) EU93 Mixer #9
- 7) EU94 Mixer #12

B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. Henkel Corporation shall keep a copy of the baghouse manufacturer's performance warranty on site.

C. Replacement filters for the baghouse shall be kept on site at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (temperature limits, acidic/alkali resistance, abrasion resistance).

D. The baghouse shall be equipped with an automated pulse system that periodically cleans the filters with bursts of compressed air to maintain optimal baghouse operation. Henkel Corporation shall develop a range of acceptable operating parameters for the pulse system that shall include, at a minimum, the following information:

- 1) Compressed air inlet pressure
- 2) Operating pressure drop
- 3) Pulse interval
- 4) Pulse duration

SPECIAL CONDITIONS:

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

- E. Henkel Corporation shall maintain all pulse system operating parameters within the acceptable ranges established in Special Condition 2.D, while the baghouse is operating. If any of the parameters deviate outside the acceptable range, Henkel Corporation shall perform corrective actions to bring the parameter back into the acceptable range. If the deviation cannot be resolved within 24 hours of the deviation, Henkel Corporation shall shutdown EP10 until the problem is resolved.

- F. Henkel Corporation shall submit a report containing the pulse system's range of acceptable operating parameters to the Air Pollution Control Program within 90 days after the issuance date of this permit. If the acceptable range of any parameter is changed at any time after the report has been submitted, Henkel Corporation shall submit an updated report to the Air Pollution Control Program within 30 days of the change. A copy of the report shall also be kept on site.

- G. Henkel Corporation shall maintain an operating and maintenance log for the baghouse and pulse system, which shall include the following:
 - 1) Incidents of malfunction and/or deviance outside acceptable operating parameters, with impact on emissions, date and duration of event, probable cause, and corrective actions
 - 2) Maintenance activities with inspection schedule, repair actions, replacements, etc.

- 3. **Record Keeping and Reporting Requirements**
Henkel Corporation 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.

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

Project Number: 2019-02-031
Installation ID Number: 177-0037
Permit Number:

07 2 0 1 9 - 0 0 4

Installation Address:
Henkel Corporation
201 Highway 10 East
Richmond, MO 64085
Ray County (S31, T52N, R27W)

Parent Company:
Henkel US Operations Corporation
One Henkel Way
Rocky Hill, CT 06067

REVIEW SUMMARY

- Henkel Corporation has applied for authority to reroute exhaust from sealant and adhesive batch mixer #13.
- The application was deemed complete on March 12, 2019.
- HAP emissions are emitted from the sealant and adhesive batch mixers (EP10); however, potential HAP emissions are not increasing as a part of this project.
- None of the NSPS or NESHAPs apply to the installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A baghouse and nitrogen blankets are currently required to respectively control particulate and VOC/HAP emissions from the sealant and adhesive batch mixers (EP10). No new control devices are being introduced in this permit.
- 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 below de minimis levels.
- This installation is located in Ray County, an attainment/unclassifiable area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal, or applicable rules.
- No Operating Permit is required for the installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Henkel Corporation (formerly Orbseal, LLC) operates a facility in Richmond, Missouri that produces automotive sealants and adhesives. Processes include the mixing, injection molding, and extruding of polymers, mastic materials, and other ingredients which form the final products. The facility is a synthetic de minimis source for VOCs and HAPs, and subsequently, a de minimis source for all other criteria pollutants. No operating permit is required for the installation. The following New Source Review permits have been issued to Henkel Corporation from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0996-012	Installation of a new automotive sealant and adhesive facility (Orbseal)
0997-023	Installation of research and development equipment (Orbseal)
1297-021	Installation of four batch mixers and various other equipment (Orbseal)
072013-002	Installation of eight new injection molding units
112014-010	Installation of three new injection molding units
072015-016	Installation of eleven new injection molding units
072015-016A	Replacement of four existing injection molding units with five new units
072017-016	Installation of three new injection molding units

PROJECT DESCRIPTION

Henkel Corporation currently operates eight sealant and adhesive batch mixers, all grouped under emission point EP10. VOC and HAP emissions from each mixer are controlled by nitrogen blankets, as required by Special Condition 3 of Construction Permit No. 0997-023 and Special Condition 2 of Construction Permit No. 1297-021. Particulate emissions from each mixer are controlled by a baghouse, as required by Special Condition 5 of Construction Permit No. 0996-012 and Special Condition 3 of Construction Permit No. 1297-021.

Exhaust from the baghouse that controls the sealant and adhesive batch mixers is normally returned to the building interior; however, it has been discovered that when operating mixer #13 (EU95), the return exhaust causes employee eye and respiratory irritation. To abate the air quality issue, Henkel Corporation is proposing to reroute the exhaust from mixer #13 directly to the exterior of the building without discharging it through the baghouse. All other sealant and adhesive batch mixers will continue to be controlled by the baghouse, and all sealant and adhesive batch mixers, including mixer #13, will still be controlled by nitrogen blankets. This modification will cause an increase in potential particulate emissions from EP10, but VOC and HAP emissions will remain unchanged.

Henkel Corporation is also installing a manual raw materials weigh-up area, which will be part of emission point EP04. The manual weigh-up will be an addition to the existing supersack unloading system, and the maximum design rate of EP04 will increase.

EMISSIONS/CONTROLS EVALUATION

Sealant and adhesive batch mixer #13 has a maximum design rate of 0.47 tons per hour. The emission factor used to calculate PM₁₀ emissions (2.20 lb/ton) was taken from WebFIRE, under SCC 3-05-016-15. PM and PM_{2.5} emission factors were calculated using a particle distribution taken from the SCAQMD CEIDARS Table (October 2006), under the category Mineral Process Loss – Brick, Cement, Fiberglass, Glass Mfg. This is the same calculation methodology that was historically used for all sealant and adhesive batch mixers. Although conservative, the emission factors were used again in this project to maintain consistency in mixer emission calculations; however, no particulate control efficiency was given, as the baghouse no longer controls mixer #13.

VOC and HAP emissions were not recalculated for mixer #13 since nothing is changing that would affect potential VOC and HAP emissions. Potential emissions of all other sealant and adhesive batch mixers will remain the same.

Material weigh-up has a new overall maximum design rate of 1.54 tons per hour. The emission factor used to calculate PM₁₀ emissions (0.300 lb/ton) was taken from WebFIRE, under SCC 3-05-012-23 for fiberglass raw material mixing/weighing. PM and PM_{2.5} emission factors were calculated using the same particle distribution as previously described. A 97% control efficiency for particulates was given to EP04 due to the existing baghouse that controls the whole process.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation's previous construction permit (072017-016). Existing actual emissions were taken from the installation's most recent EIQ. Potential emissions of the project represent the potential of EU95 and the new material weigh-up in EP04, assuming continuous operation (8,760 hours per year). Potential PM, PM₁₀, and PM_{2.5} emissions of the installation have never been calculated because the original VOC and HAP de minimis limits had subsequently limited all other pollutants below their respective de minimis levels. Currently, it is estimated that the installation-wide potential emissions of all non-limited pollutants are below de minimis levels.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2017 EIQ)	Potential Emissions of the Project	Potential Emissions of the Installation
PM	25.0	De Minimis	N/D	9.18	De Minimis
PM ₁₀	15.0	De Minimis	1.41	4.59	De Minimis
PM _{2.5}	10.0	De Minimis	0.70	1.34	De Minimis
SO _x	40.0	De Minimis	N/D	N/A	De Minimis
NO _x	40.0	De Minimis	0.15	N/A	De Minimis
VOC	40.0	<40.0	20.88	N/A	<40.0
CO	100.0	De Minimis	0.12	N/A	De Minimis
Total HAPs	25.0	<25.0	N/D	N/A	<25.0

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

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 below de minimis levels.

APPLICABLE REQUIREMENTS

Henkel Corporation 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.

GENERAL REQUIREMENTS

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees, and Process Information*, 10 CSR 10-6.110
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 14, 2019, received February 15, 2019, designating Henkel US Operations Corporation as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%percent	Mgal1,000 gallons
°Fdegrees Fahrenheit	MWmegawatt
acfmactual cubic feet per minute	MHDRmaximum hourly design rate
BACTBest Available Control Technology	MMBtuMillion British thermal units
BMPsBest Management Practices	MMCFmillion cubic feet
BtuBritish thermal unit	MSDSMaterial Safety Data Sheet
CAMCompliance Assurance Monitoring	NAAQSNational Ambient Air Quality Standards
CASChemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMSContinuous Emission Monitor System	NO_xnitrogen oxides
CFRCode of Federal Regulations	NSPSNew Source Performance Standards
COcarbon monoxide	NSRNew Source Review
CO₂carbon dioxide	PMparticulate matter
CO_{2e}carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMSContinuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSRCode of State Regulations	ppmparts per million
dscfdry standard cubic feet	PSDPrevention of Significant Deterioration
EIQEmission Inventory Questionnaire	PTEpotential to emit
EPEmission Point	RACTReasonable Available Control Technology
EPAEnvironmental Protection Agency	RALRisk Assessment Level
EUEmission Unit	SCCSource Classification Code
fpsfeet per second	scfmstandard cubic feet per minute
ftfeet	SDSSafety Data Sheet
GACTGenerally Available Control Technology	SICStandard Industrial Classification
GHGGreenhouse Gas	SIPState Implementation Plan
gpmgallons per minute	SMALScreening Model Action Levels
grgrains	SO_xsulfur oxides
GWPGlobal Warming Potential	SO₂sulfur dioxide
HAPHazardous Air Pollutant	SSMStartup, Shutdown & Malfunction
hrhour	tphtons per hour
hphorsepower	tpytons per year
lbpound	VMTvehicle miles traveled
lbs/hrpounds per hour	VOCVolatile Organic Compound
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	



2019-02-031 / Henkel / 177-0037

EP-10 - Sealant and Adhesive Batch Mixers
 EU95 - Mixer #13

MHDR = 0.47 ton/hr

EF =	PM10	Source
	2.200 lb/ton	WebFIRE SCC 3-05-016-15
	PM2.5	Source
	0.642 lb/ton	CEIDARS Table (Mineral Process Loss - Brick, Cement, Fiberglass, Glass Mfg.)
	PM	Source
	4.400 lb/ton	CEIDARS Table (Mineral Process Loss - Brick, Cement, Fiberglass, Glass Mfg.)

PTE =	PM	9.058 ton/yr
	PM10	4.529 ton/yr
	PM2.5	1.322 ton/yr

Project Potential Emissions	
PM	9.18 ton/yr
PM10	4.59 ton/yr
PM2.5	1.34 ton/yr

EP-04 - Materials Weigh-up

MHDR = 1.54 ton/hr

EF =	PM10	Source
	0.300 lb/ton	WebFIRE SCC 3-05-012-23
	PM2.5	Source
	0.088 lb/ton	CEIDARS Table (Mineral Process Loss - Brick, Cement, Fiberglass, Glass Mfg.)
	PM	Source
	0.600 lb/ton	CEIDARS Table (Mineral Process Loss - Brick, Cement, Fiberglass, Glass Mfg.)

PTE =	PM	0.121 ton/yr
	PM10	0.061 ton/yr
	PM2.5	0.018 ton/yr

*Includes 97% control from existing dust collector

