

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: 072019-003 Project Number: 2018-09-008
Installation Number: 071-0131

Parent Company: Huggins Metal Finishing

Parent Company Address: 995 North Service Rd. West, Sullivan, MO 63080

Installation Name: Sullivan Precision Metal Finishing

Installation Address: 995 North Service Rd. West, Sullivan, MO 63080

Location Information: Franklin County, S17, T40N, R2W

Application for Authority to Construct was made for:
Abrasive blast room. 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 16 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 start up 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 start up 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."

Sullivan Precision Metal Finishing
Franklin County, S17, T40N, R2W

1. Hexavalent Chromium Emission Limitation
 - A. Sullivan Precision Metal Finishing shall emit less than 0.002 tons of Hexavalent Chromium in any consecutive 12-month period from the abrasive blast room (AB-01).
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.
2. Control Device Requirement- Dust Collector
 - A. Sullivan Precision Metal Finishing shall control emissions from the abrasive blasting room (AB-51) using a dust collector as specified in the permit application.
 - B. The dust collector shall be operated and maintained in accordance with the manufacturer's specifications. The dust collector shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.
 - C. Replacement cartridges for the dust collector shall be kept on hand at all times. The cartridges shall be made of materials appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Sullivan Precision Metal Finishing shall monitor and record the operating pressure drop across the dust collector at least once every 24 hours when in operation. The operating pressure drop shall be maintained within the design conditions specified by the filter manufacturer's performance warranty.
 - E. Sullivan Precision Metal Finishing shall maintain a copy of the dust collector manufacturer's performance warranty on site.

SPECIAL CONDITIONS:

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

- F. Sullivan Precision Metal Finishing shall maintain an operating and maintenance log for the dust collector which shall include the following:
- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
3. Capture Device Requirement – Abrasive Blasting Enclosure (AB-01)
- A. Sullivan Precision Metal Finishing shall use an abrasive blasting enclosure to capture emissions from the abrasive blasting activities. Emissions from the blasting enclosure shall be routed through the dust collector as stated in Special Condition 1.
- B. Sullivan Precision Metal Finishing shall design and construct the abrasive blasting enclosure according to the Occupational Safety and Health Administration (OSHA) requirements, 29 CFR 1910.94(a)(3) *Blast-cleaning enclosures*.
- C. Sullivan Precision Metal Finishing shall demonstrate that each abrasive blasting enclosure was constructed according to Special Condition 3.B. by keeping a record of the following design parameters:
- 1) the minimum recommended face velocity
 - 2) engineering drawings which demonstrate that the enclosure was designed to meet the minimum face velocity
- D. Sullivan Precision Metal Finishing shall verify the proper operation of each abrasive blasting enclosure by checking the face velocity of the enclosure every 24 hours of operation.
4. Abrasive Blasting of Alternative Coating Materials
- A. When considering blasting alternative parts that are coated with a material that contains particulate HAPs in the abrasive blasting room (AB-01) that are different than the materials listed in the Application for Authority to Construct, Sullivan Precision Metal Finishing shall calculate the potential emissions of all individual particulate HAPs in the alternative material.
- 1) 12 month HAP emissions for AB-01 shall be calculated using the following equation:
 - a)
$$\text{HAP emissions (lbs) per 12 month period} =$$
$$\text{Blast Media used (lbs) for 12 month period} \times$$
$$\text{Controlled emission factor} \left(\frac{0.69 \text{ lb}}{1000 \text{ lb}} \right) \times$$
$$\text{HAP content \% obtained from SDS of the coating being blasted}$$

SPECIAL CONDITIONS:

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

- B. Sullivan Precision Metal Finishing shall seek approval from the Air Pollution Control Program before blasting the alternative material if the potential individual particulate HAP emissions of blasting the alternative material are equal to or greater than the screening model action level (SMAL) for any chemical listed in Appendix B
5. Record Keeping and Reporting Requirements
- A. Sullivan Precision Metal Finishing shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.
 - B. Sullivan Precision Metal Finishing shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by e-mail at AirComplianceReporting@dnr.mo.gov, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2018-09-008
Installation ID Number: 071-0131
Permit Number: 072019-003

Installation Address:

Sullivan Precision Metal Finishing
995 North Service Rd. West
Sullivan, MO 63080

Parent Company:

Huggins Metal Finishing
995 North Service Rd. West
Sullivan, MO 63080

Franklin County, S17, T40N, R2W

REVIEW SUMMARY

- Sullivan Precision Metal Finishing has applied for authority to construct an abrasive blast room consisting of a Clemco DCM200HV.
- The application was deemed complete on January 2, 2019.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are hexavalent chromium.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Blast enclosures with fabric filters are being used to control the particulate matter emissions from the equipment 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 conditioned below de minimis levels.
- This installation is located in Franklin County, a nonattainment area for the 8-hour ozone standard and an attainment area for all other 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.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.

- 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.
- The installation shall amend their Intermediate Operating Permit renewal application (Project# 2014-07-032) within 90 days of issuance of this permit. The abrasive blasting room (AB-01) within this permit will need to be included in the installation wide HAP limits. Alternatively, the installation can apply for a Part 70 Operating Permit application no later than one year after the issuance date of this permit.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Sullivan Precision Metal Finishing, located in Sullivan, Missouri, has been processing aluminum parts for the aerospace industry since 1978. Pre-fabricated aluminum parts are received from manufacturers. These parts, consisting mostly of helicopter and aircraft pieces, are treated at the facility. Some of the pieces are anodized and others are painted. The finished pieces are then shipped out to assembly plants.

Sullivan Precision Metal Finishing most recently submitted an intermediate operating permit renewal application (Project No. 2014-07-032) on July 14, 2014. The existing intermediate operating permit OP2009-033 includes 10.0/25.0 tpy HAPs limits and a 100 tpy VOC limit. The following New Source Review permits have been issued to Sullivan Precision Metal Finishing from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
1297-022	Four paint booths, two air filters and an anodizing kettle
122001-009	New paint booth
102004-003	New paint booth
052005-028	Anodizing tank

The installation was inspected on May 23, 2017 and received a letter of warning for installing a grit blast room with a Clemco DCM200HV blasting system without obtaining a construction permit prior. This permit is part of a remedial action required by the Air Pollution Control Program for the recent addition of the abrasive blast room with the Clemco DCM200HV. The facility also has two blast cabinets inside the new blast room. The two blast cabinets identified as BNP 720 and BNP 55 were relocated inside the blast room when it was constructed. The blast cabinets were not installed within two years of the Clemco DCM200HV and for evaluating emissions are not considered part of the same project as the Clemco DCM200HV. These blast cabinets were initially exempt from permitting because they do not exceed 100 cubic feet per 10 CSR 10-6.061, Construction Permit Exemptions, (3)(B)6.C. If the blast cabinets emit HAPs from blasting equipment with particulate HAPs they will need to be incorporated within the 10.0/25.0 HAPs limits via an Intermediate Operating Permit amendment.

PROJECT DESCRIPTION

Sullivan Precision Metal Finishing has added an abrasive blasting room with a Clemco DCM200HV (AB-01) to their plant. The abrasive blast room includes two existing relocated blast cabinets and the Clemco DCM200HV. The addition was added to accommodate larger parts as well as smaller parts in the existing blast cabinets. Aluminum oxide is used as the blast media with the Clemco DCM200HV. The abrasive blast room will be used to remove paint and primer from various metal parts. Emissions from both blast booths and blast room are controlled using dust collectors with filters.

Pollutants expected from the abrasive blasting will be PM, PM₁₀, PM_{2.5}, and hexavalent chromium. The Clemco DCM200HV will remove paint coatings from equipment. The primer layers on this equipment may contain strontium chromate. Chromium content of strontium chromate is 25.54 % by weight – based on values from the periodic table of elements. The total amount of chromium in the primer layers is being conservatively assumed to be all hexavalent chromium.

The MHDR of 333.00 pounds per hour of blast media is the capacity of the equipment.

EMISSIONS/CONTROLS EVALUATION

Potential emissions from the abrasive blasting processes of the Clemco DCM200HV (AB-01) were estimated using the emission factors and control efficiencies obtained from EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.2.6 Abrasive Blasting, 10/97. The controlled PM emission factor was used to account for the use of a fabric filter. The particle size distribution of the particulate emissions was determined using the California Emission Inventory Development and Reporting System (CEIDARS) Appendix A: Table A – Abrasive Blasting.

The potential emissions of hexavalent chromium from abrasive blasting is based on blasting a coating consisting of 25% two component epoxy primer consisting of High Solids Epoxy Primer 10P20-13 and High Solids Epoxy Primer EC-213, 25% two component primer consisting of 515-700 Base component and 910-704 curing solution and 50% two component topcoat consisting of Eclipse High Solids Polyurethane Enamel PC-233 and Eclipse High Solids Polyurethane Enamel ECL-G-60097. This coating represents a worst case coating material. Sullivan Precision Metal Finishing expects that the majority of grit blasting will be raw material with no coating. The amount of strontium chromate in the worst case coating was determined based off the material safety data sheets provided with the application. Strontium chromate is in High Solids Epoxy Primer 10P20-13 up to 50%. Strontium chromate is only comprised of 25.538% chromium by mass—based on values from the periodic table of elements. For this project all chromium was assumed to be hexavalent chromium.

The following table provides an emissions summary for this project. Existing potential emissions were taken from OP2009-033. Existing actual emissions were taken from the installation's 2017 EIQ. Potential emissions of the project represent the potential of

the new equipment with control equipment, assuming continuous operation (8760 hours per year). Conditioned potential emissions of the project are based on a voluntary limit for the Clemco DCM200HV (AB-01) to prevent hexavalent chromium emissions from exceeding the SMAL.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2017 EIQ)	Potential Emissions of the Project	Conditioned Potential Emissions of the Project
PM	25.0	N/D	0.73	1.01	1.01
PM ₁₀	15.0	N/D	0.73	0.87	0.87
PM _{2.5}	10.0	N/D	0.73	0.80	0.80
SO _x	40.0	N/D	0.05	N/A	N/A
NO _x	40.0	N/D	0.05	N/A	N/A
VOC	40.0	<100	5.06	N/A	N/A
CO	100.0	N/D	0.04	N/A	N/A
HAPs	10.0/25.0	<10.0/25.0	2.07	N/A	N/A
Hexavalent Chromium	0.002 ¹	N/D	0.71 ²	0.03	<0.002

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

¹SMAL

²Reported as chromium compounds

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

Sullivan Precision Metal Finishing 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

- *Operating Permits*, 10 CSR 10-6.065
- *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
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400

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 July 19, 2018, received September 10, 2018, designating Huggins Metal Finishing as the owner and operator of the installation.

Attachment A – Hexavalent Chromium Abrasive Blast Room Clemco DCM200HV Compliance Worksheet

Sullivan Precision Metal Finishing
 Franklin County, S17, T40N, R2W
 Project Number: 2018-09-008
 Installation ID Number: 071-0131
 Permit Number:

072019-003

This sheet covers the period from _____ to _____ (Copy as needed)
 (Month, Day Year) (Month, Day Year)

Month	Blast Media Used (lbs)	Hexavalent Chromium Composite Emission Factor (lb/lbs)	Monthly Hexavalent Chromium Emissions ¹ (lbs)	Startup, Shutdown and Malfunction Hexavalent Chromium Emissions ² (lbs)	Monthly Hexavalent Chromium Emissions ³ (tons)	12-Month Rolling Total Emissions ⁴ (tons)
<i>Example</i>	20,000	0.000022	0.44	0.0	0.00022	<i>0.00022 + 11 previous month</i>
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¹Multiply the monthly production by the Hexavalent Chromium composite emission factor.
²As reported to the Air Pollution Control Program’s Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 for the month.
³Add the monthly Hexavalent Chromium emissions plus the SSM emissions from the same time period and divide by 2000 and
⁴Add the monthly emissions (tons) to the sum of the monthly emissions from the previous eleven months. A total of less than 0.002 tons of Hexavalent Chromium per consecutive 12 months is necessary for compliance.

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	

Air Pollution Control Program

Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CHLOROPRENE	126-99-8	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y
ACETOPHENONE	98-86-2	1		Y	N	CHROMIUM COMPOUNDS		5	L	N	Y
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CHRYSENE	218-01-9	0.01	V	Y	N
ACROLEIN	107-02-8	0.04		Y	N	COBALT COMPOUNDS		0.1	M	N	Y
ACRYLAMIDE	79-06-1	0.02		Y	N	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N
ACRYLIC ACID	79-10-7	0.6		Y	N	CRESOL, [META-]	108-39-4	1	B	Y	N
ACRYLONITRILE	107-13-1	0.3		Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N
AMINOBIIPHENYL, [4-]	92-67-1	1	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N
ANILINE	62-53-3	1		Y	N	CUMENE	98-82-8	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y
ANTIMONY COMPOUNDS		5	H	N	Y	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	DIAZOMETHANE	334-88-3	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	DIBENZ(A, H)ANTHRACENE	53-70-3	0.01	V	Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	DIOXINS/FURANS		6E-07	D,V	Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	DIBENZOFURAN	132-64-9	5	V	Y	N
ASBESTOS	1332-21-4	0	A	N	Y	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N
BENZENE	71-43-2	2		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y
BENZIDINE	92-87-5	0.0003	V	Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DICHLOROMETHANE	75-09-2	10		N	N
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y
BERYLLIUM SALTS		2E-05	J	N	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
BROMOFORM	75-25-2	10		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
CAPROLACTAM (Delisted)	105-60-2					DIMETHYL PHTHALATE	131-11-3	10		Y	N
CAPTAN	133-06-2	10		Y	Y	DIMETHYL SULFATE	77-78-1	0.1		Y	N
CARBARYL	63-25-2	10	V	Y	Y	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
CARBON DISULFIDE	75-15-0	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
CARBON TETRACHLORIDE	56-23-5	1		Y	N	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
CARBONYL SULFIDE	463-58-1	5		Y	N	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
CATECHOL	120-80-9	5		Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
CHLORAMBEN	133-90-4	1		Y	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
CHLORDANE	57-74-9	0.01		Y	Y	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
CHLORINE	7782-50-5	0.1		N	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
CHLOROACETIC ACID	79-11-8	0.1		Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
CHLOROBENZENE	108-90-7	10		Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
CHLOROBENZILATE	510-15-6	0.4	V	Y	Y	ETHYL ACRYLATE	140-88-5	1		Y	N
CHLOROFORM	67-66-3	0.9		Y	N	ETHYL BENZENE	100-41-4	10		Y	N

Air Pollution Control Program

Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
ETHYL CHLORIDE	75-00-3	10		Y	N	NITROBENZENE	98-95-3	1		Y	N
ETHYLENE GLYCOL	107-21-1	10		Y	N	NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N
ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2					NITROPHENOL, [4-]	100-02-7	5		Y	N
ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N	NITROPROPANE, [2-]	79-46-9	1		Y	N
ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N
ETHYLENE OXIDE	75-21-8	0.1		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N
ETHYLENE THIOUREA	96-45-7	0.6		Y	Y	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N
FORMALDEHYDE	50-00-0	2		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N
GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N	PARATHION	56-38-2	0.1		Y	Y
GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y
HEPTACHLOR	76-44-8	0.02		Y	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N
HEXACHLORO BENZENE	118-74-1	0.01		Y	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N
HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N	PHENOL	108-95-2	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N
HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N	PHOSGENE	75-44-5	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N	PHOSPHINE	7803-51-2	5		N	N
HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	POLYCYLIC ORGANIC MATTER		0.01	V	Y	N
HEXAMETHYLENE, 1,6-DIISOCYANATE	822-06-0	0.02		Y	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PROPIONALDEHYDE	123-38-6	5		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PROPYLENE OXIDE	75-56-9	5		Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N
HYDROQUINONE	123-31-9	1		Y	N	QUINOLINE	91-22-5	0.006		Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	QUINONE	106-51-4	5		Y	N
ISOPHORONE	78-59-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y
LEAD COMPOUNDS		0.01	Q	N	Y	SELENIUM COMPOUNDS		0.1	W	N	Y
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	STYRENE	100-42-5	1		Y	N
MALEIC ANHYDRIDE	108-31-6	1		Y	N	STYRENE OXIDE	96-09-3	1		Y	N
MANGANESE COMPOUNDS		0.8	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN, [2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y
MERCURY COMPOUNDS		0.01	S	N	N	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N
METHANOL	67-56-1	10		Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N
METHOXYCHLOR	72-43-5	10	V	Y	Y	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	TOLUENE	108-88-3	10		Y	N
METHYL CHLORIDE	74-87-3	10		Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N
METHYL ETHYL KETONE (Delisted)	78-93-3					TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N
METHYL HYDRAZINE	60-34-4	0.06		Y	N	TOXAPHENE	8001-35-2	0.01		Y	N
METHYL IODIDE	74-88-4	1		Y	N	TRICHLORO BENZENE, [1,2,4-]	120-82-1	10		Y	N
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N
METHYL ISOCYANATE	624-83-9	0.1		Y	N	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N
METHYL METHACRYLATE	80-62-6	10		Y	N	TRICHLOROETHYLENE	79-01-6	10		Y	N
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TRIETHYLAMINE	121-44-8	10		Y	N
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TRIFLURALIN	1582-09-8	9		Y	Y
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
MINERAL FIBERS		0	T	N	Y	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
NAPHTHALENE	91-20-3	10	V	Y	N	VINYL ACETATE	108-05-4	1		Y	N
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	VINYL CHLORIDE	75-01-4	0.2		Y	N
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
NICKEL COMPOUNDS		1	U	N	Y	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
NICKEL REFINERY DUST		0.08	U	N	Y						
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y						

Air Pollution Control Program
Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
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Legend	
Group ID	
A	Asbestos
B	Cresols/Cresylic Acid (isomers and mixtures)
C	2,4 - D, Salts and Esters
D	Dibenzofurans, Dibenzodioxins
E	4, 6 Dinitro-o-cresol, and Salts
F	Lindane (all isomers)
G	Xylenes (all isomers and mixtures)
H	Antimony Compounds
I	Arsenic Compounds
J	Beryllium Compounds
K	Cadmium Compounds
L	Chromium Compounds
M	Cobalt Compounds
N	Coke Oven Emissions
O	Cyanide Compounds
P	Glycol Ethers
Q	Lead Compounds (except elemental Lead)
R	Manganese Compounds
S	Mercury Compounds
T	Fine Mineral Fibers
U	Nickel Compounds
V	Polycyclic Organic Matter
W	Selenium Compounds
X	Polychlorinated Biphenyls (Aroclors)
Y	Radionuclides
Notes	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million

Installation: Sullivan Precision Metal Finishing
 County-Plant ID: 071-0131
 Project No. 2018-09-008

Project: Abrasive Blasting

Emission Pt	Description	MHDR	Units	Control	Controlled Emission Factor	Units	Particle Size Distribution			Controlled Emissions							
							PM2.5	PM10	PM	PM2.5	PM10	PM	Units	PM2.5	PM10	PM	Units
AB-01	Abrasive Blast Room - Clemco DCM200HV	333.00	lb/hr	Filter	0.69	lb/1000 lb	79.00%	86.00%	100%	0.181518	0.1976022	0.22977	lb/hr	0.79505	0.86550	1.00639	tpy
							of PM	of PM									
Particle Size Distribution determined using Appendix A CEIDARS Table A - Abrasive Blasting																	

MHDR Development

2917080.00 lbs blast media/yr
 333.00 lbs blast media/hr
 0.333 1000 lbs blast media/hr

HAP Calculations for Paint Removal

Paint on parts may consist of primer that contains strontium chromate. Applicant supplied SDS for possible paints being removed. High Solids Epoxy Primer 10P20-13 contains strontium chromate up to 50%

High Solids Epoxy Primer 10P20-13	
Overall % of this coating on equipment	25
Information from MSDS	
% of solids of Mixture in Component A	100.00%
Strontium Chromate in Component A	50.00%
Hexavalent Chromium in Strontium Chromate	25.54%
Controlled PM Emissions	2012.7852 lbs
% Hexavalent of the total controlled PM Emissions	3.1925 %
Hexavalent Chromium Emissions	64.25817 lbs

2 Component Primer - No particulate matter HAP	
Overall % of this coating on equipment	25
Information from MSDS	
% of solids of Mixture in Component A	0.00%
Strontium Chromate in Component A	0.00%
Hexavalent Chromium in Strontium Chromate	0.00%
Controlled PM Emissions	0 lbs
% Hexavalent of the total cc	0 %
Hexavalent Chromium Emis:	0 lbs

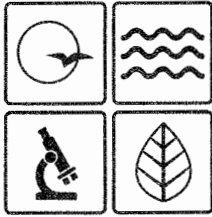
2 Component Topcoat	
Overall % of this coating on equipment	50
No particulate matter HAP	

Hexavalent Chromium Emissions

64.25817 lbs per year
 0.032129084 tons per year

Hexavalent Chromium Emission Factor

0.0000220 lbs Chromium VI per pounds blast media



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JUL 17 2019

Mr. Mark Hatcher
E.H.S. Manager
Sullivan Precision Metal Finishing
995 North Service Rd. West
Sullivan, MO 63080

RE: New Source Review Permit - Project Number: 2018-09-008

Dear Mr. Hatcher:

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, your new source review permit application and 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.

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.



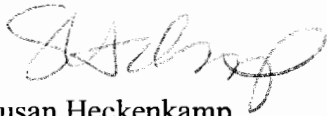
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Mr. Mark Hatcher
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csj

Enclosures

c: St. Louis Regional Office
PAMS File: 2018-09-008

Permit Number: 072019-003