



## Section 1 - South Coast AQMD BACT/LAER Determination

Source Type: **Major/LAER**  
 Application No.: **563766**  
 Equipment Category: **Thermal Oxidizer**  
 Equipment Subcategory: **Recuperative**  
 Date: **February 5, 2021**

### 1. EQUIPMENT INFORMATION

A. MANUFACTURER: Catalytic Products International	B. MODEL: Quadrant SRS-12,000
C. DESCRIPTION: The Recuperative Thermal Oxidizer is a control equipment unit controlling VOC emissions from coating and curing system. It contains one Shell-and-Tube heat exchanger and employs a single MAXON Kinedizer LE Low NOx Burner firing natural gas with a maximum rated heat capacity of 9.8 MMBtu/hr. The unit operates at a minimum combustion chamber temperature of 1,400 degree Fahrenheit.	
D. FUNCTION: 3M Industrial Adhesive and Tape Company a manufacturer of specialty tapes and fabrics used in various industries. 3M operates a recuperative thermal oxidizer and two tower coaters (coating stations and ovens) used to cure impregnated fabrics. The emissions measurement was conducted at the exhaust from a total enclosure.	
E. SIZE/DIMENSIONS/CAPACITY: 47'-8" W x 18'-6" D x 40'-0" H	

### COMBUSTION SOURCES

F. MAXIMUM HEAT INPUT: Gross heat input in btu per hour at the higher heating value of the fuel		
G. BURNER INFORMATION: Low-NO <sub>x</sub>		
TYPE	INDIVIDUAL HEAT INPUT	NUMBER
Maxon, Kinedizer LE 6 inch	9.8 MM Btu/hr	one
H. PRIMARY FUEL: Natural gas	I. OTHER FUEL: N/A	
J. OPERATING SCHEDULE: Hours 24 Days 7 Weeks 52		
K. EQUIPMENT COST: N/A		
L. EQUIPMENT INFORMATION COMMENTS: Exhaust system consisting of one 75 hp blower venting the coating and curing lines operations within a total enclosure.		

### 2. COMPANY INFORMATION

A. COMPANY: 3M Company	B. FAC ID: 35188
C. ADDRESS: 1601 S. Shamrock Ave. CITY: Monrovia STATE: CA ZIP: 91016	D. NAICS CODE: 2295
E. CONTACT PERSON: Jen Cowman Moore	F. TITLE: Senior Environmental Engineer
G. PHONE NO.: (651) 737 - 3596	H. EMAIL: JCMOORE@MMM.COM

### 3. PERMIT INFORMATION

A. AGENCY: South Coast AQMD	B. APPLICATION TYPE: NEW CONSTRUCTION
C. SCAQMD ENGINEER: Rene Loof	
D. PERMIT INFORMATION: PC ISSUANCE DATE: 6/25/14 P/O NO.: G42337 PO ISSUANCE DATE: 8/17/2016	
E. START-UP DATE: Select date from pull down. The start-up date is the first date that the equipment operates for any reason. Use the best estimate at the PC stage and actual date at the PO stage.	
F. OPERATIONAL TIME: 3+ year	

### 4. EMISSION INFORMATION

A. BACT EMISSION LIMITS AND AVERAGING TIMES: List all criteria contaminant or precursor emission limits, including facility limits, on the permit(s) that affects the equipment. Include units, averaging times and corrections (%O <sub>2</sub> , %CO <sub>2</sub> , dry, etc). For VOC, values must include if the concentration is reported as methane, hexane or any other compound. VOC mass emissions should include the molecular weight-to-carbon ratio, if applicable.						
	<b>VOC</b>	<b>NOx</b>	<b>SOx</b>	<b>CO</b>	<b>PM OR PM<sub>10</sub></b>	<b>INORGANIC</b>
BACT Limit		30 PPM		250 PPM		
Averaging Time		*				
Correction		3% O <sub>2</sub> on a dry basis		3% O <sub>2</sub> on a dry basis		
B. OTHER BACT REQUIREMENTS: Fresh air only.						
C. BASIS OF THE BACT/LAER DETERMINATION: Achieved in Practice/New Technology						
D. EMISSION INFORMATION COMMENTS: * Compliance with Rule 1147 averaging time.						

**5. CONTROL TECHNOLOGY**

A. MANUFACTURER: Catalytic Products International		B. MODEL: Quadrant SRS-12,000	
C. DESCRIPTION: Recuperative Thermal Oxidizer controlling VOC emissions contains one Shell-and-Tube heat exchanger and employs a single MAXON Kinedizer LE Low NOx Burner firing natural gas.			
D. SIZE/DIMENSIONS/CAPACITY: : 47'-8" W x 18'-6" D x 40'-0" H			
E. CONTROL EQUIPMENT PERMIT INFORMATION: APPLICATION NO. same PC ISSUANCE DATE: same PO NO.: same PO ISSUANCE DATE: same			
F. REQUIRED CONTROL EFFICIENCIES: .			
CONTAMINANT	OVERALL CONTROL EFFICIENCY	CONTROL DEVICE EFFICIENCY	COLLECTION EFFICIENCY
VOC	___%	___%	___%
NOx	___%	___%	___%
SOx	___%	___%	___%
CO	___%	___%	___%
PM	___%	___%	___%
PM <sub>10</sub>	___%	___%	___%
INORGANIC	___%	___%	___%
G. CONTROL TECHNOLOGY COMMENTS: The combustion chamber temperature shall be maintained at a minimum of 1,400 degree Fahrenheit whenever the equipment it serves is in operation. The equipment shall be maintained and operated at a minimum destruction efficiency of 95% and an overall VOC control efficiency (collection and destruction) of 95% when the basic equipment it serves is in operation.			

**6. DEMONSTRATION OF COMPLIANCE**

A. COMPLIANCE DEMONSTRATED BY: Source Test PR14344
B. DATE(S) OF SOURCE TEST: 7/22/2015
C. COLLECTION EFFICIENCY METHOD: N/A
D. COLLECTION EFFICIENCY PARAMETERS: N/A
E. SOURCE TEST/PERFORMANCE DATA: NOx: 24.3 PPMVD @ 3% O <sub>2</sub> CO: 39.1 PPMVD @ 3% O <sub>2</sub> Inlet VOC (TGNMNEO) as methane: 9,521 PPMV Exhaust VOC (TGNMNEO) as methane: 1.4 PPMV VOC Destruction Removal Efficiency (DRE): 99.98%
F. TEST OPERATING PARAMETERS AND CONDITIONS: VOC DRE test results are based on the average of three 60-minute sample runs.
G. TEST METHODS (SPECIFY AGENCY): NOx, CO, O <sub>2</sub> , and CO <sub>2</sub> using South Coast AQMD Method 100.1 VOC: South Coast AQMD Method 25.1 (Inlet) and Method 25.3 (Exhaust)

H. MONITORING AND TESTING REQUIREMENTS:
I. DEMONSTRATION OF COMPLIANCE COMMENTS: Enter comments for additional information for Demonstration of Compliance.

**7. ADDITIONAL SCAQMD REFERENCE DATA**

A. BCAT: Click here to enter text.	B. CCAT: 5	C. APPLICATION TYPE CODE: 60	
D. RECLAIM FAC? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	E. TITLE V FAC: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	F. SOURCE TEST ID(S): P14344	
G. SCAQMD SOURCE SPECIFIC RULES: Click here to enter text.			
H. HEALTH RISK FOR PERMIT UNIT			
H1. MICR: Click here to enter text.	H2. MICR DATE: Click here to enter a date.	H3. CANCER BURDEN: Click here to enter text.	H4. CB DATE: Click here to enter a date.
H5: HIA: Click here to enter text.	H6. HIA DATE: Click here to enter a date.	H7. HIC: Click here to enter text.	H8. HIC DATE: Click here to enter a date.