



3M Brownwood
4501 Highway 377 South
Brownwood, TX 76801
325 646 3551

March 6, 2025

Air Permits Initial Review Team
Texas Commission on Environmental Quality
MC 161, P.O. Box 13087
Austin, Texas 78711-3087

Subject: 3M Brownwood – Permit By Rule 106.261 Application
Regulated Entity Number: RN100219005
Customer Reference Number: CN600291397

Dear Sir or Madam:

3M Company (3M) owns and operates a plant located in Brownwood, Texas (3M Brownwood) and operates under several Permit-by-Rules (PBRs), two New Source Review (NSR) permits (71623; 23344) and one Title V federal operating permit (O1651).

3M Brownwood proposes to register and receive authorization under Permit-by-Rule 106.261 Facilities (Emission Limitations) for the installation and operation of a new degassing system which includes 60-gallon vacuum pot and vacuum system with a condenser that exhausts to atmosphere.

3M believes that portions of the attached documents are not of public knowledge or general knowledge in the trade or business and are labeled as confidential. It is secret information, has not been placed in the public domain, and, therefore, is entitled to be protected from being divulged to the public without prior written permission by 3M. It should be considered trade secrets, and held as confidential. Confidential information is stamped "3M Confidential." A separate redacted public version copy will be included as part of the PBR application submittal.

This application will serve as notification within ten days following the installation as required by 30 TAC 106.261(a)(7). If you have any questions or comments, please feel free to contact me at (651) 788-2580, or rnavis@mmm.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan Navis", written in a cursive style.

Ryan Navis
Senior Environmental Engineer

Attachments: Application Package: Introduction, Process Description, Process Flow Diagram,
Emission Calculations, TCEQ 20895 Workbook, Aerial Map

Attachment 1

Introduction

Introduction

3M Brownwood is a manufacturing facility located in Brownwood, Texas. The facility began operation in 1965 and produces an array of reflective products for the global transportation and safety industry. These products include reflective sheeting for traffic signing, vehicle registration, and personal safety applications. The equipment and processes associated with the manufacturing of these productions include: bulk storage tanks, mixing/milling operations, coating operations, printing, extrusion, lamination, reflective media manufacturing, embossing, warehousing, and shipping/receiving. 3M Brownwood is located approximately 2 miles south of Brownwood, on U.S. Highway 377. The property is located on a tract of approximately 150 acres and plant operations cover approximately 100 acres.

Attachment 2

Process Description

3M Brownwood
Permit By Rule 106.261 Facilities (Emission Limitations)

Process Description

3M Brownwood will utilize a degassing system which includes a 60-gallon vacuum pot and vacuum system with a condenser that exhausts to atmosphere. The operation could potentially process three 60-gallon batches per hour and functioning 24 hours per day, 7 days per week and 365 days per year. Actual operations will be far less.

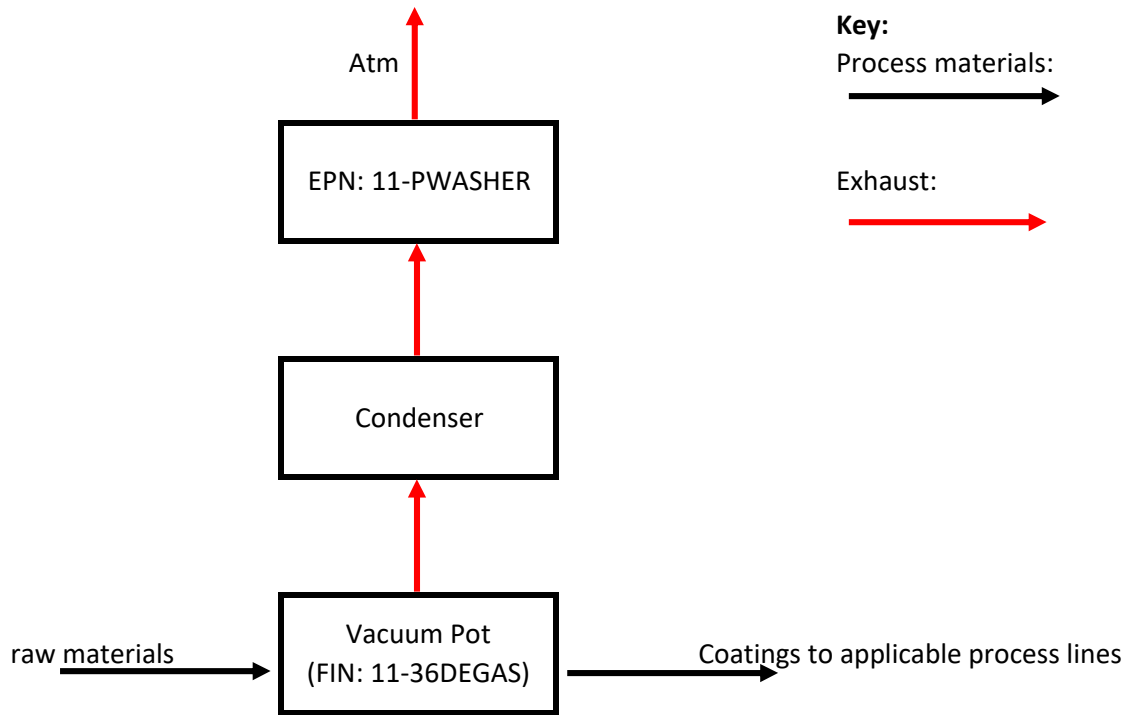
This installation meets the requirements of Permit by Rule 30 TAC 106.261(a)(3) because emissions from [REDACTED] are not referenced in Table 262 and are less than 1.0 lb/hr. Particulate emissions will not be generated due to the nature of the process. Please see the attached emissions calculations.

Attachment 3

Process Flow Diagram

3M Brownwood

Maker 36 - Degassing system (FIN: 11-36DEGAS, EPN: 11-PWASHER) Process Flow Diagram



Attachment 4

Emission Calculations

3M Brownwood**Maker 36 - Degassing system (FIN: 11-36DEGAS, EPN: 11-PWASHER) Emission Calculations**

The Degassing System includes a 60-gallon vacuum pot and vacuum system with condenser that exhausts to atmosphere. Degassing occurs immediately prior to coating.

VOC emissions are based on the following emission calculation method:

Used equation 8.4-1 from EIIP Chapter 8, the emission factor was calculated to be 6.39 lb VOC/gal based on worst-case operating conditions of (3) 60-gal batches in 60 minutes. Therefore, this emission factor is used to conservatively represent hourly emissions. $Evoc = 12.46 \times ((S \times P \times M \times Q) / T)$ where:

S= saturation factor (dimensionless; see Table 5.2-1 in AP-42): splash loading - 1.45

P= vapor pressure of the material loaded at temperature T (psia): 0.0145

SDS: 0.1 kPa (0.75 mm Hg) at 20 °C 1 kPa = 0.145 psi

M= vapor molecular weight (lb/lb-mole): 72 (MEK - worst case)

Q= volume of material loaded (gal/hr): 180 (Max (3) 60-gal batches/hr)

T= Temperature of liquid loaded (R): 531

Parameter	Value	Unit
S	1.45	--
P	0.0145	psia
M	72	lb/lb-mole
Q	180	gal/hr
T	531	R
Evoc	6.39	lb VOC/gal
VOC Rate	0.036	lb/hr

PM emissions are not expected due to size of solid components:

Component Name	CAS	Maximum SDS Composition (%)	Volatile	Solid/Liquid (S/L)	VOC Emission Rate (lb/hr)	VOC Emission Rate (TPY)
			Volatile	L	0.029	0.13
			Not classified as Volatile	S	N/A	N/A
			Not classified as Volatile	S	N/A	N/A
			Not classified as Volatile	S	N/A	N/A

Attachment 5

Aerial Map



Attachment 6

Table 1(a)

Texas Commission on Environmental Quality
Table 1(a) Emission Point Summary
Air Contaminant Data (Page 1)

Date:	03/05/2025
Permit No.:	01651; PBR 261
Regulated Entity No.:	100219005
Area Name:	3M Brownwood
Customer Reference No.:	600291397

Review of application and issuance of permits will be expedited by supplying all necessary information requested on the Table

EPN	FIN	Name	Component or Air Contaminant Name	Air Contaminant Emission Rate lb/hr	Air Contaminant Emission Rate TPY
11-PWASHER	11-36DEGAS	Maker 36 Degassing System			
11-PWASHER	11-36DEGAS	Maker 36 Degassing System	VOC (total)	0.03	0.13

EPN = Emission Point

FIN = Facility Identification Number

Texas Commission on Environmental Quality
Table 1(a) Emission Point Summary
Air Contaminant Data (Page 2)

Date:	03/05/2025
Permit No.:	01651; PBR 261
Regulated Entity No.:	100219005
Area Name:	3M Brownwood
Customer Reference No.:	600291397

Review of application and issuance of permits will be expedited by supplying all necessary information requested on the Table

EPN	FIN	Name	UTM Coordinates of Emission Point Zone	UTM Coordinates of Emission East (Meters)	UTM Coordinates of Emission North (Meters)	Emission Point Discharge Parameters Building Height (ft)	Emission Point Discharge Parameters Height Above Ground (ft)	Stack Exit Data Diameter (ft)	Stack Exit Data Velocity (FPS)	Stack Exit Data Temperature (°F)	Fugitives Length (ft)	Fugitives Width (ft)	Fugitives Axis Degrees
11-PWA	11-36DE	Maker 36 Degassing System	14	500248	3504056	39	40	0.66		70			

EPN = Emission Point

FIN = Facility Identification Number

TCEQ - 10153 (APDG 5178v7, revised 06/19) Table 1(a)

This form is for use by sources subject to air quality permit requirements and may be revised periodically.