

## Permit by Rule (PBR) Registration Technical Review

<b>Company:</b>	Nouryon Functional Chemicals LLC	<b>Registration No.:</b>	179268
<b>Nearest City:</b>	Deer Park	<b>Project No.:</b>	389400
<b>County:</b>	Harris	<b>Project Type:</b>	Initial
<b>Project Reviewer:</b>	Celine Rosales	<b>Regulated Entity No.:</b>	RN102177391
<b>Unit Name:</b>	Nouryon Functional Chemicals Battleground	<b>Customer Reference No.:</b>	CN604727180
<b>PBR No(s).:</b>	106.261, 106.262	<b>Project Received Date:</b>	February 26, 2025
<b>Physical Location:</b>	Located E Of And Adjacent To St Hwy 134 Approx 2500 Ft N Of The Intersection Of St Hwy 134 And 225 Near The City Of La Porte		

### Project Overview / Process Description

Nouryon Functional Chemicals LLC (Nouryon) owns and operates the Battleground Site located near Deer Park, Harris County, Texas. The site is currently authorized under multiple permits including NSR Permit 1505 and Title V O-4569.

The Nouryon Battleground Site manufactures commercial specialty organometallic compounds which are used as catalysts and co-catalysts for polymer manufacturing and pharmaceutical uses. The site also operates a high purity metal organics production unit. Products are shipped to customers in pressure cylinders. Under this permit by rule registration, Nouryon seeks to authorize the installation of fugitive components associated with the following projects at the Battleground Site.

- MOC BLG-M-170290 (Projected date in service 03/01/2025), Unit: Metal Alkyls (MA), Permit No.: 1505.
  - o Description: Install a check valve and associated piping components to the cylinder refurb hexane flow meter to prevent back flow of alkyls to T-6 during upset conditions. Components being added include valves and connectors/flanges.
- MOC BLG-M-170303 (Date in service 3/01/2025), Unit: Metal Alkyls (MA), Permit No.: 1505.
  - o Description: Install fugitive components to enable use of T-41 as an intermediate storage tank between R-41, a reactor vessel, and T-11 to hold MMAO-7 precursor batches from R-41 while T11 is thermolyzing. Components being added include valves and connectors/flanges. T-41 is an existing vessel on site currently authorized under NSR Permit No. 1505 to store or process various raw materials and products, including the MMAO-7 precursor. The MMAO process is a batch process which employs various vessels for production and storage under Permit No. 1505.

Production and emission rates from the Metal Alkyls Unit are not being increased upstream or downstream of the new components from what is already authorized under NSR Permit No. 1505. There is no change to the underlying air authorizations for the applicable units associated with BACT, health and environmental impacts, or other representations. No planned MSS emissions have been represented for this registration and the facilities are not expected to contribute to increased MSS activities authorized under Permit No. 1505.

This registration should be incorporated into NSR Permit 1505 at the next amendment or renewal.

### Permit by Rule Requirements - 30 TAC Chapter 106

#### General Requirements

Registration Fee Reference No.:	<b>Application fee: 753315 / 582EA000655282</b>
Is this registration certified?	<b>Yes</b>
Is planned MSS included in the registration?	<b>No</b>
Are there affected NSR or Title V authorizations for the project?	<b>Yes</b>
<i>NSR and/or Title V authorizations:</i>	<b>NSR 1505, Title V O-4569</b>
If there are affected Title V authorizations, is monitoring being submitted as part of this registration?	<b>Yes</b>
Are there any upstream or downstream affects associated with this registration?	<b>No</b>
Are associated upstream/downstream emissions either included in the registration OR within current permitted limits with no changes to underlying air authorizations for the applicable units regarding BACT, health and environmental impacts, or other representations.	<b>NA</b>

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Are emissions for each PBR authorized facility less than the § 106.4(a)(1) limits?	Yes
Are total emissions from all sitewide PBR authorized facilities less than the § 106.4(a)(4) limits, OR has the site been subject to public notice requirements?	Yes, site has been to PN for NSR 1505
Are there permit limits on using PBRs at the site?	No
Is the facility subject to the NO <sub>x</sub> Mass Cap and Trade Program?	No NOx emissions with project
Is the facility in compliance with all other applicable rules and regulations?	Yes
Does the registration include an appropriate PBR workbook, and has the workbook been verified?	Yes

## Federal Applicability

Does this project trigger a PSD or Nonattainment review?	No
Does the Major NSR applicability analysis include all associated upstream and/or downstream emissions?	NA
Are there any applicable standards under NSPS, NESHAP, or NESHAP for source categories (MACT)?	No

## Permit by Rule Requirements - Compliance Demonstrations

### PBR 106.261/262 Facilities (Emission Limitations / Emission and Distance Limitations)

- The emission point(s) associated with the facilities or changes to facilities are located at least 100 ft (**Actual: 310 ft**) from the nearest off-site receptor.
- The total new or increase emissions will comply with the applicable hourly and annual emission limits as represented in the table below.
- No chemicals under 106.262(a)(4) are handled.
- There are no changes to or addition of any pollution abatement equipment.
- Visible emissions to the atmosphere, from any point or fugitive source, do not exceed 5.0 percent opacity in any six-minute period.
- This registration does not authorize construction or changes to a facility authorized under another section of this chapter or under standard permit.

## Compliance History and Site Review

In accordance with 30 TAC Chapter 60, a compliance history report was reviewed on:	February 28, 2025
Site rating / classification: <b>0.00 / High</b>	Company rating / classification: <b>0.00 / High</b>
Has any action occurred on the basis of the compliance history or rating?	No
Did the Regional Office provide site approval and confirm distances?	NA

### 106.261(a)(2) Emissions

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold?
Refinery Petroleum Fractions (except for pyrolysis naphthas and pyrolysis gasoline) containing less than ten volume percent benzene	VOC		6	10	2.48E-01	8.20E-03	Yes

### 106.261(a)(3) Emissions

Chemical	Criteria Pollutant Designation	L Value (mg/m <sup>3</sup> )	CAS No. (optional input)	Emission Threshold (lb/hr)	Emission Threshold (tpy)	Hourly Emissions (lb/hr)	Annual Emissions (tpy)	Meets Threshold ?
Octanol	VOC			1	4.38	9.17E-06	4.02E-05	Yes

### 106.262(a)(2) Distance

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<b>Distance to nearest off-plant receptor (feet):</b>	310
<b>K value:</b>	135.5

## 106.262(a)(2) Emissions – Table 262

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	L Value (mg/m <sup>3</sup> )	E, maximum Hourly Emission Threshold (lb/hr)	Actual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
Octane	VOC	111-65-9	350	2.58E+00	5.00E+00	8.94E-07	3.91E-06	Yes

## 106.262(a)(2) Emissions – 1997 ACGIH Guide

Chemical	Criteria Pollutant Designation	CAS No. (optional input)	L Value (mg/m <sup>3</sup> )	E, maximum Hourly Emission Threshold (lb/hr)	Actual Emission Threshold (tpy)	Actual Hourly Increases (lb/hr)	Actual Annual Increase (tpy)	Meets Threshold?
Methanol	VOC	67-56-1	262	1.93E+00	5.00E+00	2.30E-05	1.01E-04	Yes
Hexane (n-Hexane)	VOC	110-54-3	176	1.30E+00	5.00E+00	3.15E-04	1.38E-03	Yes

## Total 106.261/262 Combined Emissions

	Total Hourly Emissions (lb/hr)	Total Annual Emissions (tpy)
<b>Total VOC Emissions:</b>	2.48E-01	9.73E-03

## Emission Summary

EPN / Emission Source	VOC		NOx		CO		PM <sub>10</sub>		PM <sub>2.5</sub>		SO <sub>2</sub>		Other	
	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
F-U-C / Metal Alkyl Process Fugitives	0.25	0.01												
<b>TOTAL EMISSIONS (TPY):</b>	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--
<b>MAXIMUM OPERATING SCHEDULE:</b>		<b>Hours/Year</b>												8,760

*Celine Rosales*

03/12/2025

Celine Rosales  
Permit Reviewer  
Rule Registration Section

Date

*Michael Partee*

03/13/2025

Michael Partee, Manager  
Rule Registrations Section  
Air Permits Division

Date