PERMIT AMENDMENT NO. 2843-013-0001-S-02-1
ISSUANCE DATE: 6/1/2018

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Air Quality – Permit Amendment

In accordance with The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to or in effect under that Act, Permit No. 2843-013-0001-S-02-0 issued on September 8, 2017 to:

Facility Name:	**Stepan Company**
Facility Address:	**951 Bankhead Hwy** **Winder, Georgia 30680 Barrow County**
Mailing Address:	**951 Bankhead Hwy** **Winder, Georgia 30680**
Facility AIRS Number:	**04-13-013-00001**

for the following: Operation of a specialty chemical production facility. This Permit is issued for the purpose of establishing practically enforceable emission limitations such that the facility will not be considered a major source with respect to Title V of the Clean Air Act Amendments of 1990.

is hereby amended as follows: Revision of specific equipment identification numbers. Revision of operational ranges for specific air pollution control devices.

Reason for Amendment: Application No. 26525 dated April 13, 2018

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 8 page(s).

This Permit Amendment is hereby made a part of Permit No. 2843-013-0001-S-02-0 and compliance herewith is hereby ordered. Except as amended hereby, the above referenced Permit remains in full force and effect.

STATE OF GEORGIA
CONSTITUTION
WISDOM JUSTICE MODERATION
1776

[Signed]

Richard E. Dunn, Director
Environmental Protection Division

UPDATED EQUIPMENT LIST					
Emission Units				**Associated Control Devices**	
Source Code	**Description**	**Installation Date**	**Applicable Requirements/Standards**	**Source Code**	**Description**
	Batch Reaction Processes And Associated Equipment				
R01	Alkoxylation process reactor (8,000 gallons) including catch tanks and heat exchangers.	1990	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	~~SCR-3500~~ SCR-R01	Scrubber (1998)
T-3300	31,780 gallon storage tank (typically holds propylene oxide), pressurized vessel Maximum true vapor pressure of contents: 10.99 psia Operates as a pressurized vessel over 29.7 psia.	1998	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 40 CFR 60 Subpart A 40 CFR 60 Subpart Kb Avoidance of 40 CFR Part 70	~~SCR-3500~~ SCR-R01	Scrubber (1998)
T-3400	31,780 gallon storage tank (typically holds ethylene oxide), pressurized vessel Maximum true vapor pressure of contents: 26.69 psia Operates as a pressurized vessel over 29.7 psia.	1998	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 40 CFR 60 Subpart A 40 CFR 60 Subpart Kb Avoidance of 40 CFR Part 70	~~SCR-3500~~ SCR-R01	Scrubber (1998)
UNLOAD	Railcar Unloading of EO/PO	--	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	~~SCR-3500~~ SCR-R01	Scrubber (1998)
R02	Esterification process reactor (6,000 gallons) including process tanks, heat exchangers, and condenser(s).	1978	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCR-NAOHR02	Scrubber (1978)
R04	Intermediate esterification process reactor (8,000 gallons) including process tanks, heat exchangers, and condenser(s).	2009	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCR-NAOHR02	Scrubber (1978)
R05	Process which includes a reactor (8,500 gallons), heat exchangers, and condenser(s).	2001	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCR-NAOHR02	Scrubber (1978)
DMS	Railcar/Truck Dimethyl Sulfate Unloading	--	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCR-8126	DMS Storage Scrubber
T-126	25,000 gallon process vessel (typically holds Dimethyl Sulfate), pressurized vessel	1992	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCR-8126	DMS Storage Scrubber
--	R05 Solids – Bag Dump Station	--	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
--	R05 Solids Conveying Cyclone to R05 Reactor	--	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None

UPDATED EQUIPMENT LIST					
Emission Units				**Associated Control Devices**	
Source Code	**Description**	**Installation Date**	**Applicable Requirements/Standards**	**Source Code**	**Description**
Continuous Process Lines					
R-1002	Sulfonation I Process Line – includes sulfur burner, sulfur dioxide and sulfur trioxide coolers, air dryers, converter, sulfonator (or reactor) , separators, process scrubbers and process mist eliminators	1977	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	SCP-DRY1 SCP-DEM11 SCP-DEM12 SCP-NAOH1 SCP-TAIL1	Dry Scrubber (1977) Dry Scrubber Demister 1 (1977) Dry Scrubber Demister 2 (1977) Caustic Scrubber (1977) Tail Gas Demister (1977)
R420	Sulfonation II Process Line – includes sulfur burner, sulfur dioxide and sulfur trioxide coolers, air dryers, converter, sulfonator (or reactor) , separators, process scrubbers and process mist eliminators	1992	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) 40 CFR 60 Subpart A 40 CFR 60 Subpart RRR Avoidance of 40 CFR Part 70	SCP-DRY2 SCP-DEM21 SCP-DEM22 SCP-NAOH2 SCP-TAIL2	Dry Scrubber (1992) Scrubber Demister (1992) Scrubber Demister (1992) Caustic Scrubber (1992) Tail Gas Demister (1992)
Batch Neutralizers					
R-BN1	Reactor #1 (8,000 gallons)	1984	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
R-BN2	Reactor #2 (8,000 gallons)	1987	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
R-BN3	Reactor #3 (17,000 gallons)	1989	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
R-BN4	Reactor #4 (17,000 gallons)	1989	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
T-550	7,400 gallon HVP Reblend Process Tank	1994	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
Cooling Towers					
CT1	Oxide Cooling Tower	1992	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
CT2	Sulfonation II Process Line Cooling Tower	1992	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
Blenders					
R-BL1	Blender #1 (10,000 gallons) equipped with a venturi scrubber that operates as process equipment. Also included is a Silverson Mixer and Supersack Loader	1977	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None

UPDATED EQUIPMENT LIST					
Emission Units				Associated Control Devices	
Source Code	Description	Installation Date	Applicable Requirements/Standards	Source Code	Description
R-BL2	Blender #2 (10,000 gallons)	1977	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None
R-BL3	Blender #3 (1,000 gallons)	1988	391-3-1-.02(2)(e) 391-3-1-.02(2)(b) Avoidance of 40 CFR Part 70	N/A	None

STORAGE TANKS						
Equipment Group	Source Code	Capacity (gallons)	Contents	Control Device	Installation Date	Maximum True Vapor Pressure (psia)
--	T-077	10,000	Not a VOL	N/A	1978	--
--	T-9035.2	8,000	Not a VOL	N/A	2014	--
Equipment Group 1 Storage Tanks defined as Tanks which contain VOL with a maximum true vapor pressure between 0.19 and 2.2 psia. Each of these storage tanks has a storage capacity less than 151 m^3 (39,890 gallons).						
1	T-029	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-030	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-058	10,000	VOL	N/A	1979	≥0.19 psia but < 2.2 psia
1	T-060	10,000	VOL	N/A	1979	≥0.19 psia but < 2.2 psia
1	T-061	10,000	VOL	N/A	1979	≥0.19 psia but < 2.2 psia
1	T-073	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-074	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-075	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-076	10,000	VOL	N/A	1978	≥0.19 psia but < 2.2 psia
1	T-053	14,000	VOL	N/A	1977	≥0.19 psia but < 2.2 psia
1	T-082	25,000	VOL	N/A	2010	≥0.19 psia but < 2.2 psia
1	T-012	30,000	VOL	N/A	1989	≥0.19 psia but < 2.2 psia
1	T-120	30,000	VOL	N/A	1990	≥0.19 psia but < 2.2 psia
1	T-121	30,000	VOL	N/A	1990	≥0.19 psia but < 2.2 psia
1	T-130	30,000	VOL	N/A	1995	≥0.19 psia but < 2.2 psia
Equipment Group 2: Tanks which contain VOL with a maximum true vapor pressure equal to or greater than 2.2 psia but less than 4.0 psia.						
2	T-080	10,000	VOL	N/A	1978	≥ 2.2 psia but < 4.0 psia
2	T-136	10,000	VOL	N/A	2003	≥ 2.2 psia but < 4.0 psia
2	T-137	22,500	VOL	N/A	2008	≥ 2.2 psia but < 4.0 psia
2	T-122	30,000	VOL	N/A	1990	≥ 2.2 psia but < 4.0 psia
2	T-124	30,000	VOL	N/A	1990	≥ 2.2 psia but < 4.0 psia

FUEL BURNING SOURCES					
Source Code	**Input Heat Capacity (MMBtu/hr)**	**Description**	**Installation Date**	**Construction Date**	**Applicable Requirements/Standards**
E-001	16.7	400 hp Steam Generator Boiler #1 (Source Code #4) Natural gas fired only	1977	1977	Georgia Rule 391-3-1-.02(2)(d) Georgia Rule 391-3-1-.02(2)(g)
E-002	16.7	400 hp Steam Generator Boiler #2 (Source Code #8) Natural gas fired only	1985	1985	Georgia Rule 391-3-1-.02(2)(d) Georgia Rule 391-3-1-.02(2)(g)
E-005	9.99	Hot Oil Heater Natural gas in-direct fired only This hot oil heater provides heat energy to the R02 Esterification Kettle and the R04 Quaternary Reactor.	2006	2006	Georgia Rule 391-3-1-.02(2)(d) Georgia Rule 391-3-1-.02(2)(g)
GEN1	--	536.4 hp (or 400 kW) Standby emergency generator, firing diesel fuel	1996	1996	Georgia Rule 391-3-1-.02(2)(b) Georgia Rule 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ
GEN2	--	469.35 hp (or 350 kW) Standby emergency generator, firing diesel fuel	2016	2016	Georgia Rule 391-3-1-.02(2)(b) Georgia Rule 391-3-1-.02(2)(g) 40 CFR 60 Subpart A 40 CFR 60 Subpart IIII 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ
FP1	--	215 hp Standby Fire Water Pump Engine, firing diesel fuel	1978	1978	Georgia Rule 391-3-1-.02(2)(b) Georgia Rule 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ
FP2	--	215 hp Standby Fire Water Pump Engine, firing diesel fuel	1978	1978	Georgia Rule 391-3-1-.02(2)(b) Georgia Rule 391-3-1-.02(2)(g) 40 CFR 63 Subpart A 40 CFR 63 Subpart ZZZZ

4. Process & Control Equipment

Sulfonation Process Lines

Modified Condition

4.5 During the times when the Sulfonation I Process Line is in operation, the Permittee shall operate the control devices in accordance with the following operating conditions. A "daily block average" is an average of the continuous measurements from 12:00 AM (day 1) to 12:00 AM (day 2).

[a. through e., g. – No Change]

f.	The Permittee shall maintain a daily pH block average greater than 5 for scrubber SCP-NAOH1.

Modified Condition

4.6 During the times when the Sulfonation II Process Line is in operation, the Permittee shall operate the control devices in accordance with the following operating conditions. A "daily block average" is an average of the continuous measurements from 12:00 AM (day 1) to 12:00 AM (day 2).

[b. through f., h. – No Change]

a.	The Permittee shall maintain a daily pressure drop block average within the range of 0.01 to 1.0 psi for the cyclone/acid-gas separator system immediately downstream of the Sulfonation II Process Line Reactor.
g.	The Permittee shall maintain a daily pH block average greater than 5 for scrubber SCP-NAOH2.

Batch Process Lines

Modified Condition

4.9 At all times during the operation of Alkoxylation process which includes Reactor R01, the Permittee shall route the exhaust gases from Reactor R01 through a scrubber (SCR-R01).

Modified Condition

4.10 At all times during the operation of railcar unloading of ethylene oxide and propylene oxide (UNLOAD), the Permittee shall route the exhaust gases from UNLOAD through a scrubber (SCR-R01).

Modified Condition

4.11 At all times during the depressurization of the propylene oxide and ethylene oxide storage tanks (T-3300 and T-3400), the Permittee shall route the exhaust gases from Storage tanks T-3300 and T-3400, each, through a scrubber (SCR-R01).

Modified Condition

4.12 During the times when operation of the Alkoxylation process scrubber (SCR-R01) is required under Condition Nos. 4.9 through 4.11, the Permittee shall operate the scrubber (SCR-R01) in accordance with the following operating conditions. A "daily block average" is an average of the continuous measurements from 12:00 AM (day 1) to 12:00 AM (day 2).

[b. through c. – No Change]

a.	The Permittee shall maintain the percent scrubbant range within 4 to 7 percent acid [inclusive], measured once per calendar week of operation.

Modified Condition

4.16 During the times when operation of the Esterification process scrubber (SCR-NAOHR02) is required under Condition Nos. 4.13 through 4.15, the Permittee shall operate the scrubber (SCR-NAOHR02) in accordance with the following operating conditions. A "daily block average" is an average of the continuous measurements from 12:00 AM (day 1) to 12:00 AM (day 2).

[a. and c. – No Change]

b.	Deleted

5. Monitoring

Modified Condition

5.3 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements. This information required to be monitored and recorded shall be recorded in a permanent form suitable and available for inspection.
[391-3-1-.02(6)(b)1.]

Batch Process Lines

a. Percent by weight of acid in the scrubbant for Scrubber SCR-R01 for Alkoxylation Process including Reactor R01. Data shall be recorded at least once per calendar week.

[b. – No Change]

Modified Condition

5.4 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements. This information required to be monitored and recorded shall be recorded in a permanent form suitable and available for inspection.
[391-3-1-.02(6)(b)1.]

Sulfonation I Process Line – Continuous Process Line

[a. through c., e. through g.- No Change]

d. Pressure drop across Tail Gas Demister in Sulfonation I Process Line (SCP-TAIL1). The Permittee shall use this data to compute and record a daily block average. The Permittee shall maintain records of the derivation of each daily block average.

Sulfonation II Process Line – Continuous Process Line
[h. through k., m. through o., - No Change]

l. Pressure drop across Tail Gas Demister in Sulfonation II Process Line (SCP-TAIL2). The Permittee shall use this data to compute and record a daily block average. The Permittee shall maintain records of the derivation of each daily block average.

Batch Process Lines
[s. - No Change]

p. Scrubbant flow rate (gallons per minute) for Scrubber SCR-R01 for Alkoxylation Process including Reactor R01. The Permittee shall use this data to compute and record a daily block average. The Permittee shall maintain records of the derivation (including calculation) of each daily block average.

q. Gas flow rate (scfm) for Scrubber SCR-R01 for Alkoxylation Process including Reactor R01. The Permittee shall use this data to compute and record a daily block average. The Permittee shall maintain records of the derivation (including calculation) of each daily block average.

r. Deleted

Storage Tanks – 40 CFR 60 Subpart Kb
Modified Condition

5.7 With regard to the operation of Storage Tanks T-3300 and T-3400 the Permittee shall operate the closed vent system and control device (SCR-R01 Scrubber) and monitor the parameters of the closed vent systems and control devices in accordance with the operating plan submitted to the Division in accordance with 40 CFR 60.113b(c)(1).
[391-3-1-.02(6)(b)1.]

7. Notification, Reporting and Record Keeping Requirements

Reporting Requirements
Modified Condition

7.11 The Permittee shall submit a written report of reportable incidences for each semiannual period. The report shall cover each semiannual period ending June 30 and December 31 of each year, shall be postmarked by August 29 and February 28, respectively, and shall contain the nature and cause of the reportable incident, the time and date of occurrence, and any initial and final corrective action taken. They report shall also contain a summary of any days for which any of the required operation and maintenance surveillance checks were not made and the reasons for such failure to perform the surveillance. A reportable incidence is defined as the following:

	Device	Definition of Reportable Incidence
a.	SCR-DRY1	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
b.	SCP-DEM11	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.

	Device	Definition of Reportable Incidence
c.	SCP-DEM12	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
d.	SCP-TAIL1	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
e.	SCP-NAOH1	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
f.	SCP-NAOH1	Any pH measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
g.	SCP-NAOH1	Any scrubbant flow rate measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
h.	Cyclone/Acid Gas Separator System on Sulfonation II Process Line	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
i.	SCR-DRY2	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
j.	SCP-DEM21	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
k.	SCP-DEM22	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
l.	~~SCP-TAIL1~~ SCP-TAIL2	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
m.	SCP-NAOH2	Any pressure drop measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
n.	SCP-NAOH2	Any pH measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
o.	SCP-NAOH2	Any scrubbant volume flow rate measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
p.	~~SCR-3500~~ SCR-R01	Any percent scrubbant range of acid measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
q.	~~SCR-3500~~ SCR-R01	Any scrubbant volume flow rate measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
r.	~~SCR-3500~~ SCR-R01	Any gas flow rate measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
s.	SCR-NAOHR02	Any percent caustic measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.
t.	Deleted	Deleted.
u.	SCR-NAOHR02	Any scrubbant volume flow rate measurement required by Section 5 of this permit that is outside the range prescribed in Section 4 of this permit.