Troy Chemical Corp (05459)

Date: 4/18/2023

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: **Number:** 0

Description of Modifications: Troy Chemical Corp is submitting this initial application to permit two drum huts. Each hut is capable of filling both drums and totes with finished product from piping fed directly from storage tanks.

The facility would like to request that any monitoring recordkeeping requirements related to tracking annual emissions be related to an annual throughput (lbs / year) rather than total number of hours of operation as this is an easier metric for the facility to track.

Enclosed with this RADIUS submittal are emissions calculations and an air flow block diagram for the proposed operating scenarios. We understand that an application fee of $3,370 will be applied to this application consisting of $2,730 for the first source and $640 for the additional sources being permitted.

If there are any questions or comments regarding this submittal, please contact our consultant Thomas Perez of Baron Environmental Associates at thomas.perez@baronenv.com or (908) 508-9000.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Troy Chemical Corp

Facility ID (AIMS): 05459

Street Address: 1 AVE L
NEWARK, NJ 07105

Mailing Address: 1 AVE L
NEWARK, NJ 07105

State Plane Coordinates:

X-Coordinate:	570
Y-Coordinate:	4,507
Units:	Feet
Datum:	Unknown
Source Org.:	DEP-Program
Source Type:	DEP Program Database

County: Essex

Location Description:

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	325510

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Troy Chemical Corporation
Org. Type: Private
Name: William Reilley
NJ EIN: 22230683000
Title: Environmental Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: reilleyw@troycorp.com

Contact Type: Fees/Billing Contact

Organization: Troy Chemical Corporation
Org. Type: Private
Name: William Reilley
NJ EIN: 22230683000
Title: Environmental Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: reilleyw@troycorp.com

Contact Type: Responsible Official

Organization: Troy Chemical Corporation
Org. Type: Private
Name: Tony Sarbaugh
NJ EIN: 22230683000
Title: Plant Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: sarbaught@troycorp.com

Troy Chemical Corp (05459) Date: 4/18/2023

New Jersey Department of Environmental Protection
Facility Profile (Permitting)

1. Is this facility classified as a small business by the USEPA?	No
2. Is this facility subject to N.J.A.C. 7:27-22?	No
3. Are you voluntarily subjecting this facility to the requirements of Subchapter 22?	No
4. Has a copy of this application been sent to the USEPA?	No
5. If not, has the EPA waived the requirement?	No
6. Are you claiming any portion of this application to be confidential?	No
7. Is the facility an existing major facility?	No
8. Have you submitted a netting analysis?	No
9. Are emissions of any pollutant above the SOTA threshold?	No
10. Have you submitted a SOTA analysis?	No
11. If you answered "Yes" to Question 9 and "No" to Question 10, explain why a SOTA analysis was not required	
12. Have you provided, or are you planning to provide air contaminant modeling?	No

New Jersey Department of Environmental Protection
Equipment Inventory

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E101	Old Drum Hut	Old Drumming Hut	Manufacturing and Materials Handling Equipment					
E102	New Drum Hut	New Drumming Hut	Manufacturing and Materials Handling Equipment					

Troy Chemical Corp (05459)

Date: 4/18/2023

New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT101	DrumPT-Old	Drum Fill Emission Point - Old Drumming Hut	Round	3	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT102	TotePT-Old	Tote Fill Emission Point - Old Drumming Hut	Round	5	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT103	DrumPT-New	Drum Fill Emission Point - New Drumming Hut	Round	3	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT104	TotePT-New	Tote Fill Emission Point - New Drumming Hut	Round	5	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	

Troy Chemical Corp (05459)

Date: 4/18/2023

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 101 DrumHuts New and Old Drumming Huts

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Min.	Annual Oper. Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS1	OldDrumHut	Operations at the Old Drumming Huts	Normal - Steady State	E101		PT101 PT102	3-01-830-01	0.0	6,000.0	A	2.0	5.0	40.0	80.0
OS2	NewDrumHut	Operations at the New Drumming Huts	Normal - Steady State	E102		PT103 PT104	3-01-830-01	0.0	6,000.0	A	2.0	5.0	40.0	80.0

05459 Troy Chemical Corp Date: 4/18/2023

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS0 Summary**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.46000000	0.46000000	0.46000000	tons/yr	No

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS1**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.08000000	0.08000000	0.08000000	lb/hr	No

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS2**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.08000000	0.08000000	0.08000000	lb/hr	No

000000 E101 (Manufacturing and Materials Handling Equipment)
Print Date: 4/18/2023

Make:	N/A
Manufacturer:	N/A
Model:	N/A
Type of Manufacturing and Materials Handling Equipment:	Drum/Tote Filling
Capacity:	3.25E+02
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	Yes
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E102 (Manufacturing and Materials Handling Equipment)
Print Date: 4/18/2023

Make:	N/A
Manufacturer:	N/A
Model:	N/A
Type of Manufacturing and Materials Handling Equipment:	Drum/Tote Filling
Capacity:	3.25E+02
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	Yes
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

05459 Troy Chemical Corp PCP000000 U101 OS1 (Raw Materials)
Print Date: 4/18/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Cumene	00098-82-8	Liquid		Yes				lb/gal
Non-HAP VOC		Liquid		Yes				lb/gal

05459 Troy Chemical Corp PCP000000 U101 OS1 (Gas Flow)
Print Date: 4/18/2023

Volume of Gas Discharged from this source (acfm):	3.00

05459 Troy Chemical Corp PCP000000 U101 OS2 (Raw Materials)
Print Date: 4/18/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Cumene	00098-82-8	Liquid		Yes				lb/gal
Non-HAP VOC		Liquid		Yes				lb/gal

05459 Troy Chemical Corp PCP000000 U101 OS2 (Gas Flow)
Print Date: 4/18/2023

Volume of Gas Discharged from this source (acfm):	3.00

Troy Chemical Corp (05459)

Date: 4/18/2023

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: **Number:** 0

Description of Modifications: Troy Chemical Corp is submitting this initial application to permit two drum huts. Each hut is capable of filling both drums and totes with finished product from piping fed directly from storage tanks.

The facility would like to request that any monitoring recordkeeping requirements related to tracking annual emissions be related to an annual throughput (lbs / year) rather than total number of hours of operation as this is an easier metric for the facility to track.

Enclosed with this RADIUS submittal are emissions calculations and an air flow block diagram for the proposed operating scenarios. We understand that an application fee of $3,370 will be applied to this application consisting of $2,730 for the first source and $640 for the additional sources being permitted.

If there are any questions or comments regarding this submittal, please contact our consultant Thomas Perez of Baron Environmental Associates at thomas.perez@baronenv.com or (908) 508-9000.

Troy Chemical Corp
Newark, NJ
05459

U101 OS101 and OS102 Emission Calculations -
Old (OS101) & New (OS102) Drum Huts

Facility fills both Drums and Totes. Worst Case: Potential to fill up to 4 325-gallon totes per hour
Worst-case material for VOC & HAPs AF-1
Based on 4 totes/hour, 6,000 hours per year limits, max annual throughput: 7,800,000 gal/year
Assume average density of material to be 8.3 lbs/gal, max annual throughput: 64,740,000 lbs/year
May transfer into pails, drums or totes

Vapor Pressure = 3 mmHg
VOC content - 55%
HAP content - up to 10%
1,2,4-Trimethlybenzene 5-10 %, M.W. = 120.2, v.p. = 1 mmHg
Cumene < 0.3%, MW = 120.19, vp = 8 mmHg

Assumptions:
- Assume worst-case emissions occur from saturated air displacement during material transfer.
- Product totes are 325 gallons.
- Filler capacity is 4 totes/hour.
- Assume conservative molecular weight of 200 lb/lb-mol for partial pressure calculations.

Mole Fraction and Partial Pressure Calculations for AF-1:

Constituent	%Wt	Mol. Wt. (lb/lb-mol)	lb mol per lb	Mol Fraction	V.P. pure (mmHg)	Partial Press. Pi(mmHg)
Non-volatile ingredients	45%	200	0.002	41.4%		0.00
1,2,4-Trimethylbenzene	10%	120.2	0.001	15.3%	1.00	0.15
Cumene	0.3%	120.19	0.000	0.5%	8.00	0.04
Solvent naphtha	25%	120	0.002	38.3%	2.10	0.80
1,3,5-Trimethylbenzene	3%	120.2	0.000	4.6%	2.00	0.09
			0.005			

SCF = gallons/tote * 4 totes/hour * 1 scf / 7.481 gal
SCF/hour = 325 gallons/tote * 4 totes/hour * 1 scf/7.481 gallons
SCF/hour = 173.77

lb 1,2,4/hr = SCF/hr * (% solvent in air) * (lb-mol/387 scf) * (M.W. [lb/lb-mol]
lb 1,2,4/hr = 173.77 SCF/hr * 0.15 mmHg / 760 mmHg) * (lb-mol/387 scf) * 120.2 lb/lb-mol
lb 1,2,4/hr = 0.01

lb Cumene/hr = SCF/hr * (% solvent in air) * (lb-mol/387 scf) * (M.W. [lb/lb-mol]
lb Cumene/hr = 173.77 SCF/hr * 0.04 mmHg / 760 mmHg) * (lb-mol/387 scf) * 120.19 lb/lb-mol
lb Cumene/hr = 0.003

lb naphtha/hr = SCF/hr * (% solvent in air) * (lb-mol/387 scf) * (M.W. [lb/lb-mol]
lb naphtha/hr = 173.77 SCF/hr * 0.8 mmHg / 760 mmHg) * (lb-mol/387 scf) * 120.2 lb/lb-mol
lb naphtha/hr = 0.057

lb 1,3,5/hr = SCF/hr * (% solvent in air) * (lb-mol/387 scf) * (M.W. [lb/lb-mol]
lb 1,3,5/hr = 173.77 SCF/hr * 0.09 mmHg / 760 mmHg) * (lb-mol/387 scf) * 120.2 lb/lb-mol
lb 1,3,5/hr = 0.01

Total VOC lb/hour = VOC 1,2,4 + VOC Cumene + VOC Naphtha + VOC 1,3,5
Total VOC lb/hour = 0.01 lb/hr + 0.003 lb/hr + 0.057 lb/hr + 0.01 lb/hr
Total VOC lb/hour = 0.08

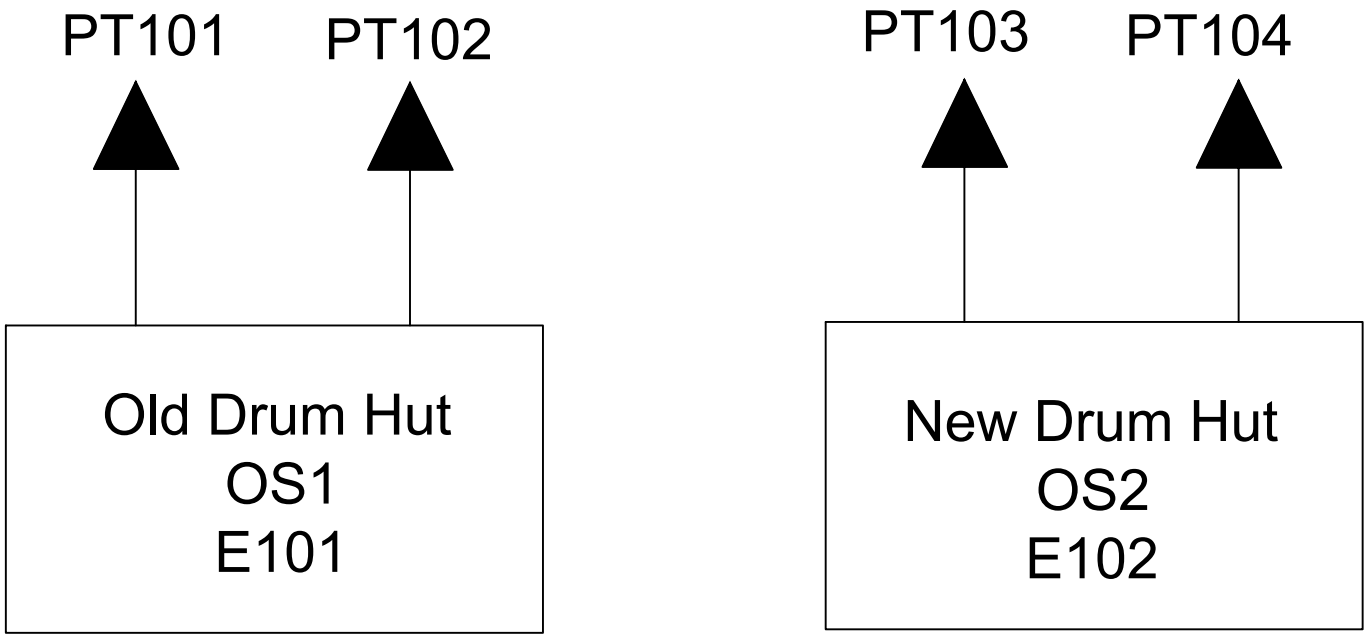
TPY = VOC lb/hr * 6,000 hrs/year * 1 ton/2,000 lb
TPY = 0.08 lb/hr * 6,000 hr/year * 1 ton/2,000 lb
TPY = 0.23

The facility would like to request that any monitoring recordkeeping requirements related to tracking annual emissions be related to an annual throughput (lbs / year) rather than total number of hours of operation as this is an easier metric for the facility to track.

Cumene Applicability Threshold
Cumene TPY = Cumene lb/hr * hours/yr / lb/ton
Cumene TPY = 0.003 lb/yr * 6000 hrs/yr / 2000 lbs/ton
Cumene TPY = **0.009** **< below 1 TPY reporting threshold**

Subchapter 16 Applicability:
The above processes are exempt from meeting the requirements outlined within Subchapter 16.4 as the volume of the receiving container is less than 2,000 gallons.

U101



Baron
Environmental Associates, L.L.C.
776 Mountain Blvd, Suite 105
Watchung, NJ 07069
Phone: (908) 508-9000 Fax: (908) 508-9101

TITLE:
Troy Chemical Corp
Drum Huts

CLIENT:	**Troy Chemical Corp**
SITE:	**Newark**
DATE:	**4/6/23**
DRAWN BY:	**TRP**
SCALE:	**NTS**
JOB NO:	**J23102**

FIGURE:
1

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): Troy Chemical Corp **Facility ID (AIMS):** 05459

Street Address: 1 AVE L
NEWARK, NJ 07105

Mailing Address: 1 AVE L
NEWARK, NJ 07105

State Plane Coordinates:

X-Coordinate:	570
Y-Coordinate:	4,507
Units:	Feet
Datum:	Unknown
Source Org.:	DEP-Program
Source Type:	DEP Program Database

County: Essex

Location Description:

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	325510

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: Air Permit Information Contact

Organization: Troy Chemical Corporation
Org. Type: Private
Name: William Reilley
NJ EIN: 22230683000
Title: Environmental Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: reilleyw@troycorp.com

Contact Type: Fees/Billing Contact

Organization: Troy Chemical Corporation
Org. Type: Private
Name: William Reilley
NJ EIN: 22230683000
Title: Environmental Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: reilleyw@troycorp.com

Contact Type: Responsible Official

Organization: Troy Chemical Corporation
Org. Type: Private
Name: Tony Sarbaugh
NJ EIN: 22230683000
Title: Plant Manager
Phone: (973) 589-2500 x
Mailing Address: 1 Avenue L, Newark, NJ 07105
Fax: ( ) - x
Other: ( ) - x
Type:
Email: sarbaught@troycorp.com

New Jersey Department of Environmental Protection
Equipment Inventory

Equip. NJID	Facility's Designation	Equipment Description	Equipment Type	Certificate Number	Install Date	Grand-Fathered	Last Mod. (Since 1968)	Equip. Set ID
E101	Old Drum Hut	Old Drumming Hut	Manufacturing and Materials Handling Equipment					
E102	New Drum Hut	New Drumming Hut	Manufacturing and Materials Handling Equipment					

000000 E101 (Manufacturing and Materials Handling Equipment)
Print Date: 4/6/2023

Make:	N/A
Manufacturer:	N/A
Model:	N/A
Type of Manufacturing and Materials Handling Equipment:	Drum/Tote Filling
Capacity:	3.25E+02
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	Yes
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E102 (Manufacturing and Materials Handling Equipment)
Print Date: 4/6/2023

Make:	N/A
Manufacturer:	N/A
Model:	N/A
Type of Manufacturing and Materials Handling Equipment:	Drum/Tote Filling
Capacity:	3.25E+02
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	Yes
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

Troy Chemical Corp (05459)

Date: 4/6/2023

New Jersey Department of Environmental Protection
Emission Points Inventory

PT NJID	Facility's Designation	Description	Config.	Equiv. Diam. (in.)	Height (ft.)	Dist. to Prop. Line (ft)	Exhaust Temp. (deg. F)			Exhaust Vol. (acfm)			Discharge Direction	PT Set ID
							Avg.	Min.	Max.	Avg.	Min.	Max.		
PT101	DrumPT-Old	Drum Fill Emission Point - Old Drumming Hut	Round	3	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT102	TotePT-Old	Tote Fill Emission Point - Old Drumming Hut	Round	5	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT103	DrumPT-New	Drum Fill Emission Point - New Drumming Hut	Round	3	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	
PT104	TotePT-New	Tote Fill Emission Point - New Drumming Hut	Round	5	4	200	65.0	40.0	80.0	3.0	2.0	5.0	Up	

Troy Chemical Corp (05459)

Date: 4/18/2023

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 101 DrumHuts New and Old Drumming Huts

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours Min.	Annual Oper. Hours Max.	VOC Range	Flow (acfm) Min.	Flow (acfm) Max.	Temp. (deg F) Min.	Temp. (deg F) Max.
OS1	OldDrumHut	Operations at the Old Drumming Huts	Normal - Steady State	E101		PT101 PT102	3-01-830-01	0.0	6,000.0	A	2.0	5.0	40.0	80.0
OS2	NewDrumHut	Operations at the New Drumming Huts	Normal - Steady State	E102		PT103 PT104	3-01-830-01	0.0	6,000.0	A	2.0	5.0	40.0	80.0

000000 U101 OS1 (Raw Materials)
Print Date: 4/6/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Cumene	00098-82-8	Liquid		Yes				lb/gal
Non-HAP VOC		Liquid		Yes				lb/gal

000000 U101 OS1 (Gas Flow)
Print Date: 4/6/2023

Volume of Gas Discharged from this source (acfm):	3.00

000000 U101 OS2 (Raw Materials)
Print Date: 4/6/2023

Raw Material	CAS Number	Physical State	Molecular Weight (lbs/lbs-mole)	Does the Material Contain VOC?	Weight Fraction (%)	Vapor Pressure @ 70 deg F (mmHg)	Organic Density	Units
Cumene	00098-82-8	Liquid		Yes				lb/gal
Non-HAP VOC		Liquid		Yes				lb/gal

000000 U101 OS2 (Gas Flow)
Print Date: 4/6/2023

Volume of Gas Discharged from this source (acfm):	3.00

Troy Chemical Corp (05459) Date: 4/18/2023

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS0 Summary**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.46000000	0.46000000	0.46000000	tons/yr	No

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS1**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.08000000	0.08000000	0.08000000	lb/hr	No

Subject Item: **U101 DrumHuts**

Operating Scenario: **OS2**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
VOC (Total)		0.08000000	0.08000000	0.08000000	lb/hr	No