DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

New Jersey Department of Environmental Protection
Reason for Application

Permit Being Modified

Permit Class: PCP **Number:** 120003

Description of Modifications: The following air permit modifications are being proposed:
Consolidate four air permits into a single permit, as follows:

PCP 960003	Silo - 500 ton,
PCP 960004	Silo - 500 ton,
PCP 120003	Rendering Process Area,
PCP 120002	Grease House,

Add Packed Tower Scrubber PTS-5;
Replace Packed Tower Scrubber PTS-3;
Implement RADOX wet scrubber chemistry;
Change/add equipment in the rendering and grease house processes;
Extend and modify scrubber discharge stacks;
Incorporate the Odor Control Plan.

New Jersey Department of Environmental Protection
Facility Profile (General)

Facility Name (AIMS): DARLING INGREDIENTS INC

Facility ID (AIMS): 05574

Street Address: 825 WILSON AVE
NEWARK, NJ 07105

Mailing Address: 825 WILSON AVE
NEWARK, NJ 07105

State Plane Coordinates:

X-Coordinate:	596,002
Y-Coordinate:	685,230
Units:	New Jersey State Plane 8
Datum:	NAD83
Source Org.:	DEP-GIS
Source Type:	GPS

County: Essex

Location Description:

Industry:

Primary SIC:	
Secondary SIC:	
NAICS:	311613

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: **Air Permit Information Contact**

Organization: Darling Ingredients Inc

Org. Type: Corporation

Name: Matthew Appleby

NJ EIN: 36249534600

Title: General Manager

Phone: (973) 465-1900 x

Mailing Address: 825 Wilson Ave
Newark, NJ 07105

Fax: ( ) - x

Other: ( ) - x

Type:

Email: MAPPLEBY@DARLINGII.com

Contact Type: **Fees/Billing Contact**

Organization: Darling Ingredients Inc

Org. Type: Corporation

Name: Matthew Appleby

NJ EIN: 36249534600

Title: General Manager

Phone: (973) 465-1900 x

Mailing Address: 825 Wilson Ave
Newark, NJ 07105

Fax: ( ) - x

Other: ( ) - x

Type:

Email: MAPPLEBY@DARLINGII.com

Contact Type: **General Contact**

Organization: Darling Ingredients Inc

Org. Type: Corporation

Name: Matthew Appleby

NJ EIN: 36249534600

Title: General Manager

Phone: (973) 465-1900 x

Mailing Address: 825 Wilson Ave
Newark, NJ 07105

Fax: ( ) - x

Other: ( ) - x

Type:

Email: MAPPLEBY@DARLINGII.com

New Jersey Department of Environmental Protection
Facility Profile (General)

Contact Type: **Responsible Official**

Organization: Darling Ingredients Inc

Org. Type: Corporation

Name: William R. McMurtry

NJ EIN: 36249534600

Title: VP of Environmental Affairs

Phone: (972) 281-4409 x

Fax: ( ) - x

Other: ( ) - x

Type:

Email: BMCMURTRY@DARLINGII.COM

Mailing Address: 251 O'Connor Ridge Blvd
Suite 300
Irving, TX 75038

DARLING INGREDIENTS INC (05574) Date: 8/26/2020

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
E601	SILO 1	SILO 1	Manufacturing and Materials Handling Equipment	PCP960003		No		
E701	SILO 2	SILO 2	Manufacturing and Materials Handling Equipment	PCP960004		No		
E3201	S CONVEYOR1	SCREW CONVEYOR 1 TO RENDERING	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3202	PRE-HEATER	GREASE PRE-HEATER	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3203	HOT TUNNEL 1	HOT TUNNEL 1	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3204	HOT TUNNEL 2	HOT TUNNEL 2	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3205	ROTARY SCR	GREASE ROTARY SCREEN	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3206	TANK 22	TANK 22	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3207	DRUM WASHER	DRUM WASHER	Manufacturing and Materials Handling Equipment	PCP120002		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
E3208	TANK 23	TANK 23	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3209	TANK 24	TANK 24	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3210	AIR COND 5	AIR COOLED CONDENSER 5	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3211	TANK 29	TANK 29	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3212	TANK 30	TANK 30	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3213	TANK 33	TANK 33	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3214	S CONVEYOR 2	SCREW CONVEYOR 2	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3215	HOPPER PIT	RAW GREASE HOPPER PIT	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3216	TANK A	TANK A	Manufacturing and Materials Handling Equipment	PCP120002		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
E3217	TANK B	TANK B	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3218	TANK C	TANK C	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3219	DAF 1	DAF 1	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3220	DAF TK	DAF TANK	Manufacturing and Materials Handling Equipment	PCP120002		No		
E3221	DAF 2	DAF 2	Manufacturing and Materials Handling Equipment			No		
E3301			Manufacturing and Materials Handling Equipment			No		
E3302			Manufacturing and Materials Handling Equipment			No		
E3303			Manufacturing and Materials Handling Equipment			No		
E3304			Manufacturing and Materials Handling Equipment			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
E3305		ROTO SHEAR	Manufacturing and Materials Handling Equipment	PCP120003		No		
E3306			Manufacturing and Materials Handling Equipment			No		
E3307			Manufacturing and Materials Handling Equipment			No		
E3308			Manufacturing and Materials Handling Equipment			No		
E3309		CENTRIFUGE MUD	Manufacturing and Materials Handling Equipment	PCP120003		No		
E3310			Manufacturing and Materials Handling Equipment			No		
E3311			Manufacturing and Materials Handling Equipment			No		
E3312			Manufacturing and Materials Handling Equipment			No		
E3313			Manufacturing and Materials Handling Equipment			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
E3314		FALLING FILM EVAPORATOR	Manufacturing and Materials Handling Equipment	PCP120003		No		
E3315			Manufacturing and Materials Handling Equipment			No		
E3316			Manufacturing and Materials Handling Equipment			No		
E3317			Manufacturing and Materials Handling Equipment			No		
E3318			Manufacturing and Materials Handling Equipment			No		
E3319		MUD CENTRIFUGE FEED TANK	Manufacturing and Materials Handling Equipment	PCP120003		No		
E3320			Manufacturing and Materials Handling Equipment			No		
E3321			Manufacturing and Materials Handling Equipment			No		
E3322			Manufacturing and Materials Handling Equipment			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
E3323			Manufacturing and Materials Handling Equipment			No		
E3324			Manufacturing and Materials Handling Equipment			No		
E3325			Manufacturing and Materials Handling Equipment			No		
E3326			Manufacturing and Materials Handling Equipment			No		
E3327			Manufacturing and Materials Handling Equipment			No		
E3328			Manufacturing and Materials Handling Equipment			No		
E3329			Manufacturing and Materials Handling Equipment			No		
E3330		CENTRIFUGE 3	Manufacturing and Materials Handling Equipment	PCP120003		No		
E3331		CENTRIFUGE 4	Manufacturing and Materials Handling Equipment	PCP120003		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
E3332			Manufacturing and Materials Handling Equipment			No		
E3333			Manufacturing and Materials Handling Equipment			No		
E3334			Manufacturing and Materials Handling Equipment			No		
E3335			Manufacturing and Materials Handling Equipment			No		
E3336			Manufacturing and Materials Handling Equipment			No		
E3337			Manufacturing and Materials Handling Equipment			No		
E3338			Manufacturing and Materials Handling Equipment			No		
E3339			Manufacturing and Materials Handling Equipment			No		
E3340			Manufacturing and Materials Handling Equipment			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
E3341			Manufacturing and Materials Handling Equipment			No		
E3342			Manufacturing and Materials Handling Equipment			No		
E3343			Manufacturing and Materials Handling Equipment			No		
E3344			Manufacturing and Materials Handling Equipment			No		
E3345			Manufacturing and Materials Handling Equipment			No		
E3346			Manufacturing and Materials Handling Equipment			No		
E3347	ASPIRATOR	ASPIRATOR	Manufacturing and Materials Handling Equipment			No		
E3348	AIR COND E	AIR COOLED CONDENSER EAST	Manufacturing and Materials Handling Equipment			No		
E3349	AIR COND W	AIR COOLED CONDENSER WEST	Manufacturing and Materials Handling Equipment			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
E3350	CYCLONE 1	CYCLONE 1	Manufacturing and Materials Handling Equipment			No		
E3351	CYCLONE 2	CYCLONE 2	Manufacturing and Materials Handling Equipment			No		

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

New Jersey Department of Environmental Protection
Control Device Inventory

CD NJID	Facility's Designation	Description	CD Type	Install Date	Grand-Fathered	Last Mod. (Since 1968)	CD Set ID
CD3201	Venturi 2	Grease Venturi	Scrubber (Venturi)		No		
CD3202	PTS 4	PTS 4	Scrubber (Packed Tower)		No		
CD3301			Scrubber (Venturi)		No		
CD3302	PTS 1	PTS 1	Scrubber (Packed Tower)		No		
CD3303	PTS 2	PTS 2	Scrubber (Packed Tower)		No		
CD3305	PTS 3	PTS 3	Scrubber (Packed Tower)	8/30/2020	No		
CD3306	PTS 5	PTS 5	Scrubber (Packed Tower)	8/30/2020	No		

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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.		
PT3201	PTS 4 STACK	PTS 4 GREASE EXHAUST STACK	Round	17	30	150	90.0	70.0	175.0	40,000.0	30,000.0	40,000.0	Up	
PT3301	PTS 1 STACK	PTS 1 RENDERING EXHAUST STACK	Round	5	75	150	90.0	70.0	175.0	60,000.0	50,000.0	75,000.0	Up	
PT3302	PTS2 3 STACK	PTS 2 AND 3 RENDERING EXHAUST STACK	Round	8	75	100	90.0	70.0	175.0	120,000.0	100,000.0	150,000.0	Up	

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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			Normal - Steady State	E3301	CD3305 (P)	PT3302								
OS2			Normal - Steady State	E3302	CD3305 (P)	PT3302								
OS3			Normal - Steady State	E3303	CD3305 (P)	PT3302								
OS4			Normal - Steady State	E3304	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS5		Roto Shear	Normal - Steady State	E3305	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS6			Normal - Steady State	E3306	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS7			Normal - Steady State	E3307	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS8			Normal - Steady State	E3308	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS9		Centrifuge Mud	Normal - Steady State	E3309	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS10			Normal - Steady State	E3310	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS11			Normal - Steady State	E3311	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS12			Normal - Steady State	E3312	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS13			Normal - Steady State	E3313	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS14		Falling Film Evaporator	Normal - Steady State	E3314	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS15			Normal - Steady State	E3315	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS16			Normal - Steady State	E3316	CD3305 (P)	PT3302								
OS17			Normal - Steady State	E3317	CD3305 (P)	PT3302								
OS18			Normal - Steady State	E3318	CD3305 (P)	PT3302								
OS19		Mud Centrifuge Feed Tank	Normal - Steady State	E3319	CD3305 (P)	PT3302								
OS20			Normal - Steady State	E3320	CD3305 (P)	PT3302								
OS21			Normal - Steady State	E3321	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS22			Normal - Steady State	E3322	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS23			Normal - Steady State	E3323	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS24			Normal - Steady State	E3324	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS25			Normal - Steady State	E3325	CD3302 (P) CD3303 (P)	PT3301 PT3302								

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS26			Normal - Steady State	E3326	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302								
OS27			Normal - Steady State	E3327	CD3305 (P)	PT3302								
OS28			Normal - Steady State	E3328	CD3305 (P)	PT3302								
OS29			Normal - Steady State	E3329	CD3305 (P)	PT3302								
OS30		Centrifuge 3 Grease	Normal - Steady State	E3330	CD3305 (P)	PT3302								
OS31		Centrifuge 4 Grease	Normal - Steady State	E3331	CD3305 (P)	PT3302								
OS32			Normal - Steady State	E3332	CD3302 (P)	PT3301								
OS33			Normal - Steady State	E3333	CD3305 (P)	PT3302								
OS34			Normal - Steady State	E3334	CD3305 (P)	PT3302								
OS35			Normal - Steady State	E3335	CD3305 (P)	PT3302								
OS36			Normal - Steady State	E3336	CD3302 (P)	PT3301								
OS37			Normal - Steady State	E3337	CD3302 (P)	PT3301								
OS38			Normal - Steady State	E3338	CD3302 (P)	PT3301								
OS39	Air Cond E	Air Cooled Condenser East	Normal - Steady State	E3348	CD3302 (P) CD3303 (P)	PT3301 PT3302								

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS40	Air Cond W	Air Cooled Condenser West	Normal - Steady State	E3349	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS41			Normal - Steady State	E3341	CD3305 (P)	PT3302								
OS42			Normal - Steady State	E3342	CD3305 (P)	PT3302								
OS43			Normal - Steady State	E3343	CD3305 (P)	PT3302								
OS44			Normal - Steady State	E3344	CD3305 (P)	PT3302								
OS45			Normal - Steady State	E3345	CD3302 (P) CD3303 (P)	PT3301 PT3302								
OS47	Aspirator	Aspirator	Normal - Steady State	E3347	CD3302 (P)	PT3301	3-02-038-05	0.0	7,488.0		20,000.0	75,000.0	65.0	100.0
OS48	Cyclone 1	Cyclone 1	Normal - Steady State	E3350	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302	3-02-038-05	0.0	7,488.0		20,000.0	75,000.0	65.0	100.0
OS49	Cyclone 2	Cyclone 2	Normal - Steady State	E3351	CD3301 (P) CD3302 (P) CD3303 (P) CD3306 (P)	PT3301 PT3302	3-02-038-05	0.0	7,488.0		20,000.0	75,000.0	65.0	100.0
OS50	Silo 1	Silo 1	Normal - Steady State	E601	CD3302 (P) CD3303 (P)	PT3301 PT3302	3-02-038-05	0.0	7,488.0		20,000.0	75,000.0	65.0	100.0
OS51	Silo 2	Silo 2	Normal - Steady State	E701	CD3302 (P) CD3303 (P)	PT3301 PT3302	3-02-038-05	0.0	7,488.0		20,000.0	75,000.0	65.0	100.0

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS52	S Conveyor 1	Screw Conveyor 1 to rendering	Normal - Steady State	E3201	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS53	Pre-heater	Grease Pre-heater	Normal - Steady State	E3202	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		30,000.0	40,000.0	65.0	150.0
OS54	Hot Tunnel 1	Hot Water Tunnel 1	Normal - Steady State	E3203	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS55	Hot Tunnel 2	Hot Water Tunnel 2	Normal - Steady State	E3204	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		30,000.0	40,000.0	65.0	150.0
OS56	Rotary scr	Grease Rotary screen holding tank	Normal - Steady State	E3205	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS57	Tank 22	Tank 22	Normal - Steady State	E3206	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS58	Drum wash	Drum washer	Normal - Steady State	E3207	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS59	Tank 23	Tank 23	Normal - Steady State	E3208	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS60	Tank 24	Tank 24	Normal - Steady State	E3209	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS61	Air Cond 5	Air cooled condenser 5	Normal - Steady State	E3210	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS62	Tank 29	Tank 29	Normal - Steady State	E3211	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS63	Tank 30	Tank 30	Normal - Steady State	E3212	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0

DARLING INGREDIENTS INC (05574)

Date: 8/26/2020

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

U 33 UCO & RENDER GREASE AND RENDING PROCESS

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.
OS64	Tank 33	Tank 33	Normal - Steady State	E3213	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS65	S Conveyor 2	Screw Conveyor system 2	Normal - Steady State	E3214	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS66	Hopper Pit	Raw Grease hopper pit	Normal - Steady State	E3215	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS67	Tank A	Tank A	Normal - Steady State	E3216	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS68	Tank B	Tank B	Normal - Steady State	E3217	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS69	Tank C	Tank C	Normal - Steady State	E3218	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS70	DAF 1	DAF 1	Normal - Steady State	E3219	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS71	DAF Tank	DAF Tank	Normal - Steady State	E3220	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0
OS72	DAF 2	DAF 2	Normal - Steady State	E3221	CD3201 (P) CD3202 (P)	PT3201	3-02-038-05	0.0	8,760.0		20,000.0	40,000.0	65.0	150.0

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: U33 UCO & RENDER

Operating Scenario: OS0 Summary

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	475.62600000	4.75600000	4.75600000	tons/yr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	tons/yr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	tons/yr	No
Hydrogen sulfide	0.00000000	19.15700000	1.62300000	1.62300000	tons/yr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	tons/yr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	tons/yr	No
PM-10 (Total)	0.00000000	5.34400000	0.26700000	0.26700000	tons/yr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	tons/yr	No
TSP	0.00000000	47.58100000	2.37900000	2.37900000	tons/yr	No
VOC (Total)	0.00000000	127.25000000	15.50000000	15.50000000	tons/yr	No

Subject Item: U33 UCO & RENDER

Operating Scenario: OS1

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.42000000	0.02100000	0.02100000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS1**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	3.78000000	0.18900000	0.18900000	lb/hr	No
VOC (Total)	0.00000000	0.11490000	0.08610000	0.08610000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS2**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.42000000	0.02100000	0.02100000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	3.78000000	0.18900000	0.18900000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.82700000	0.82700000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS3**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.42000000	0.02100000	0.02100000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	3.78000000	0.18900000	0.18900000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS4**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS4**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS5**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS6**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS7**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS7**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS8**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS9**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS10**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS10**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS11**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS12**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS13**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS13**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS14**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: U33 UCO & RENDER

Operating Scenario: OS15

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: U33 UCO & RENDER

Operating Scenario: OS16

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS16**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS17**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS18**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS19**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS19**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS20**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS21**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	D	D	D	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	D	D	D	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	D	D	D	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	D	D	D	lb/hr	No
VOC (Total)	0.00000000	D	D	D	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS22**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS22**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS23**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS24**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS25**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS25**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS26**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS27**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS28**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS28**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS29**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS30**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS31**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS31**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS32**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS33**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS34**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS34**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS35**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS36**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS37**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS37**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS38**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS39**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS40**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS40**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS41**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	1.51100000	0.01510000	0.01510000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.00260000	0.00260000	0.00260000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.42000000	0.02100000	0.02100000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	3.78000000	0.18900000	0.18900000	lb/hr	No
VOC (Total)	0.00000000	0.11030000	0.08270000	0.08270000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS42**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS43**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS43**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS44**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS45**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS47**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.08170000	0.00410000	0.00410000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS47**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.73500000	0.03680000	0.03680000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS48**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: U33 UCO & RENDER

Operating Scenario: OS49

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.00843000	0.00843000	lb/hr	No

Subject Item: U33 UCO & RENDER

Operating Scenario: OS50

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.01370000	0.00070000	0.00070000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS50**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
TSP	0.00000000	0.05430000	0.00270000	0.00270000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS51**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
Ammonia	0.00000000	2.86990000	0.02870000	0.02870000	lb/hr	No
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Hydrogen sulfide	0.00000000	0.13050000	0.01040000	0.01040000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.01370000	0.00070000	0.00070000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.05430000	0.00270000	0.00270000	lb/hr	No
VOC (Total)	0.00000000	0.84310000	0.08340000	0.08340000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS52**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS53**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01750000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS54**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01750000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS55**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01750000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS56**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS57**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS58**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS59**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS60**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS61**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS62**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS63**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS64**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS65**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS66**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS67**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS68**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS69**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS70**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS71**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

New Jersey Department of Environmental Protection
Potential to Emit

Subject Item: **U33 UCO & RENDER**

Operating Scenario: **OS72**

Step:

Air Contaminant Category (HAPS)	Fugitive Emissions	Emissions Before Controls	Emissions After Controls	Total Emissions	Units	Alt. Em. Limit
CO	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
HAPs (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
NOx (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
Pb	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
PM-10 (Total)	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
SO2	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
TSP	0.00000000	0.00000000	0.00000000	0.00000000	lb/hr	No
VOC (Total)	0.00000000	0.01700000	0.00090000	0.00090000	lb/hr	No

000000 E601 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Silo
Capacity:	5.00E+02
Units:	other units
Description (if other):	tons
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E701 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Silo
Capacity:	5.00E+02
Units:	other units
Description (if other):	tons
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3201 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Conveyer
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3202 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Pre-heater
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	Pre-heater Heat Exchanger type

000000 E3203 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Hot water tunnel
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3204 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Hot water tunnel
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3205 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Rotary holding tank
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3206 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3207 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

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

000000 E3208 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3209 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3210 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Air cooled condenser
Capacity:	1.50E+04
Units:	other units
Description (if other):	lbs of condensed water per hour
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3211 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3212 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3213 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Tank
Capacity:	1.50E+05
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3214 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Screw conveyer
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3215 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Hopper Pit
Capacity:	
Units:	
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3216 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Process Tank
Capacity:	3.76E+03
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3217 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Process Tank
Capacity:	3.76E+03
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3218 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Process Tank
Capacity:	3.76E+03
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3219 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Dissolved air floatation system
Capacity:	2.00E+02
Units:	other units
Description (if other):	gpm of wastewater
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3220 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	tank
Capacity:	5.00E+02
Units:	gallons
Description (if other):	
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 E3221 (Manufacturing and Materials Handling Equipment)
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	Custom
Model:	Custom
Type of Manufacturing and Materials Handling Equipment:	Dissolved air floatation system
Capacity:	2.00E+02
Units:	other units
Description (if other):	gpm of wastewater
Have you attached a diagram showing the location and/or the configuration of this equipment?	No
Have you attached any manuf.'s data or specifications to aid the Dept. in its review of this application?	No
Comments:	

000000 CD3201 (Scrubber (Venturi))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp.
Model:	Custom
Is the Scrubber Used for Particulate Control?	● Yes ○ No
Is the Scrubber Used for Gas Control?	○ Yes ● No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	40.00
Maximum Operating Liquid Flow Rate (gpm):	100.00
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	4,000.00
Maximum Operating Gas Flow Rate (acfm):	10,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	10.50
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Throat Length (in):	6.00
Throat Diameter (in):	2.50
Maximum Inlet Gas Temperature (°F):	100.0
Maximum Outlet Gas Temperature (°F):	80.0
Inlet Particle Grain Loading (gr/dscf):	
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3201 (Scrubber (Venturi))
Print Date: 8/26/2020

Comments:

000000 CD3202 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp
Model:	Custom
Is the Scrubber Used for Particulate Control?	○ Yes ● No
Is the Scrubber Used for Gas Control?	● Yes ○ No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	Handheld AMP meter
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	250.00
Maximum Operating Liquid Flow Rate (gpm):	350.00
Method of Monitoring Liquid Flow Rate:	Electronic Data
Minimum Operating Gas Flow Rate (acfm):	25,000.00
Maximum Operating Gas Flow Rate (acfm):	32,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	4.00
Method of Monitoring Pressure Drop:	Electronic Data
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Height of Packed Section (ft):	6.00
Type of Packing Material:	Polypropylene
Size of Packing Material (in):	3.50
Tower Diameter (ft):	9.00
Total Tower Height (ft):	18.00
Maximum Operating Temperature of the Inlet Gas (°F):	100.0
Maximum Operating Temperature of the Exhuast Gas(°F):	80.0
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3202 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

○ Yes ● No

Comments:

000000 CD3301 (Scrubber (Venturi))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp.
Model:	Custom
Is the Scrubber Used for Particulate Control?	● Yes ○ No
Is the Scrubber Used for Gas Control?	○ Yes ● No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	50.00
Maximum Operating Liquid Flow Rate (gpm):	150.00
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	5,000.00
Maximum Operating Gas Flow Rate (acfm):	15,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	10.50
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Throat Length (in):	12.00
Throat Diameter (in):	14.00
Maximum Inlet Gas Temperature (°F):	260.0
Maximum Outlet Gas Temperature (°F):	250.0
Inlet Particle Grain Loading (gr/dscf):	
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3301 (Scrubber (Venturi))
Print Date: 8/26/2020

Comments:

000000 CD3302 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp
Model:	Custom
Is the Scrubber Used for Particulate Control?	○ Yes ● No
Is the Scrubber Used for Gas Control?	● Yes ○ No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	133.00
Maximum Operating Liquid Flow Rate (gpm):	997.50
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	10,000.00
Maximum Operating Gas Flow Rate (acfm):	75,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	4.00
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Height of Packed Section (ft):	10.00
Type of Packing Material:	Polypropylene
Size of Packing Material (in):	3.50
Tower Diameter (ft):	12.50
Total Tower Height (ft):	25.50
Maximum Operating Temperature of the Inlet Gas (°F):	200.0
Maximum Operating Temperature of the Exhuast Gas(°F):	200.0
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3302 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

○ Yes ● No

Comments:

000000 CD3303 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp
Model:	Custom
Is the Scrubber Used for Particulate Control?	○ Yes ● No
Is the Scrubber Used for Gas Control?	● Yes ○ No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	133.00
Maximum Operating Liquid Flow Rate (gpm):	997.50
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	10,000.00
Maximum Operating Gas Flow Rate (acfm):	75,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	4.00
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Height of Packed Section (ft):	10.00
Type of Packing Material:	Polypropylene
Size of Packing Material (in):	3.50
Tower Diameter (ft):	12.50
Total Tower Height (ft):	25.50
Maximum Operating Temperature of the Inlet Gas (°F):	200.0
Maximum Operating Temperature of the Exhuast Gas(°F):	200.0
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3303 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

○ Yes ● No

Comments:

000000 CD3305 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	AC Corp
Model:	Custom
Is the Scrubber Used for Particulate Control?	○ Yes ● No
Is the Scrubber Used for Gas Control?	● Yes ○ No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	133.00
Maximum Operating Liquid Flow Rate (gpm):	997.50
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	10,000.00
Maximum Operating Gas Flow Rate (acfm):	75,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	4.00
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Height of Packed Section (ft):	10.00
Type of Packing Material:	Polypropylene
Size of Packing Material (in):	3.50
Tower Diameter (ft):	12.50
Total Tower Height (ft):	25.50
Maximum Operating Temperature of the Inlet Gas (°F):	200.0
Maximum Operating Temperature of the Exhuast Gas(°F):	200.0
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3305 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

○ Yes ● No

Comments:

000000 CD3306 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Make:	Custom
Manufacturer:	IES
Model:	Custom
Is the Scrubber Used for Particulate Control?	○ Yes ● No
Is the Scrubber Used for Gas Control?	● Yes ○ No
Is the Scrubber Equipped with a Mist Eliminator?	● Yes ○ No
Minimum Pump Discharge Pressure (in. H20):	
Maximum Pump Discharge Pressure (in. H20):	
Method of Monitoring Pump Discharge Pressure:	
Minimum Pump Current (amps):	
Maximum Pump Current (amps):	
Method of Monitoring Pump Current:	
Minimum Scrubber Medium Inlet Pressure (in. H20):	
Minimum Operating Liquid Flow Rate (gpm):	50.00
Maximum Operating Liquid Flow Rate (gpm):	150.00
Method of Monitoring Liquid Flow Rate:	Electronic Data Collection Flow Meter
Minimum Operating Gas Flow Rate (acfm):	5,000.00
Maximum Operating Gas Flow Rate (acfm):	15,000.00
Method of Monitoring Gas Flow Rate:	
Minimum Operating Pressure Drop (in. H20):	2.00
Maximum Operating Pressure Drop (in. H20):	4.00
Method of Monitoring Pressure Drop:	Electronic Data Collection Pressure Transducer
Relative Direction of the Gas-Liquid Flow:	Counter-Current
Description:	
Height of Packed Section (ft):	9.00
Type of Packing Material:	Polypropylene
Size of Packing Material (in):	3.50
Tower Diameter (ft):	5.00
Total Tower Height (ft):	20.50
Maximum Operating Temperature of the Inlet Gas (°F):	250.0
Maximum Operating Temperature of the Exhuast Gas(°F):	200.0
Maximum Number of Sources Using this Apparatus as a Control Device (Include Permitted and Non-Permitted Sources):	
Alternative Method to Demonstrate Control Apparatus is Operating Properly:	
Have you attached data from recent performance testing?	○ Yes ● No
Have you attached a diagram showing the location and/or configuration of this control apparatus?	○ Yes ● No

000000 CD3306 (Scrubber (Packed Tower))
Print Date: 8/26/2020

Have you attached any manufacturer's data or specifications in support of the feasibility and/or effectiveness of this control apparatus?

○ Yes ● No

Comments:

05574 DARLING INGREDIENTS INC PCP000000 U33 OS1 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS1 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS2 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS2 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS3 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS3 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS4 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS5 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS6 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	10.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS7 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	10.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS8 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS9 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS10 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS11 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS12 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS13 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS14 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS15 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS16 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS16 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS17 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS17 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS18 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS18 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS19 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS19 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS20 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS20 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS21 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS21 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS21 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS21 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS22 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS22 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS22 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS22 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS23 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS23 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS23 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS23 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS24 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS24 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS24 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS24 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS25 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS25 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS25 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS25 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS26 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS27 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS27 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS28 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS28 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS29 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS29 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS30 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS30 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS31 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS31 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS32 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS32 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS33 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS33 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS34 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS34 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS35 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS35 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS36 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS37 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS38 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS39 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS39 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS39 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS39 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS40 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS40 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS40 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS40 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS41 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	0.01	0.01
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	25.00	25.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS41 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS42 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS42 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS43 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS43 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS44 (Efficiency Table - CD3305)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS44 (Scrubber - CD3305)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS45 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS45 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS45 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS45 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS47 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS47 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS48 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Efficiency Table - CD3301)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Scrubber - CD3301)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Efficiency Table - CD3306)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS49 (Scrubber - CD3306)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	11.0
Minimum pH:	8.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS50 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS50 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS50 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrigen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS50 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS51 (Efficiency Table - CD3302)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS51 (Scrubber - CD3302)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS51 (Scrubber - CD3303)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	6.0
Minimum pH:	3.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS51 (Efficiency Table - CD3303)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
Ammonia	100.00	99.00	99.00
CO			
HAP (Total)			
Hydrogen Sulfide	100.00	92.00	92.00
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	90.00	90.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS52 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS52 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS52 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS52 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS53 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS53 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS53 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS53 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS54 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS54 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS54 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS54 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS55 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS55 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS55 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS55 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS56 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS56 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS56 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS56 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS57 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS57 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS57 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS57 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS58 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS58 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS58 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS58 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS59 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS59 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS59 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS59 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS60 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS60 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS60 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS60 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS61 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS61 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS61 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS61 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS62 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS62 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS62 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS62 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS63 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS63 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS63 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS63 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS64 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS64 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS64 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS64 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS65 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS65 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS65 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS65 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS66 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS66 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS66 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS66 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS67 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS67 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS67 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS67 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS68 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS68 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS68 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS68 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS69 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS69 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS69 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS69 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS70 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS70 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS70 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS70 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS71 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS71 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS71 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS71 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS72 (Efficiency Table - CD3201)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)			

05574 DARLING INGREDIENTS INC PCP000000 U33 OS72 (Scrubber - CD3201)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	
Chemical Additive in Scrubbing Medium:	
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	
Maximum pH:	
Minimum pH:	
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

05574 DARLING INGREDIENTS INC PCP000000 U33 OS72 (Efficiency Table - CD3202)
Print Date: 8/26/2020

Pollutant Category	Capture Efficiency (%)	Removal Efficiency (%)	Overall Efficiency (%)
CO			
HAP (Total)			
NOx			
Other (Total)			
Pb			
PM-10	100.00	95.00	95.00
PM-2.5			
SO2			
TSP	100.00	95.00	95.00
VOC (Total)	100.00	95.00	95.00

05574 DARLING INGREDIENTS INC PCP000000 U33 OS72 (Scrubber - CD3202)
Print Date: 8/26/2020

Liquid Recirculation Method:	Recirculated
Liquid Being Used for Absorption:	Water
Chemical Additive in Scrubbing Medium:	RADOX
Minimum Concentration of Chemical Additive (%):	
Maximum Concentration of Chemical Additive (%):	
How is the activity of the Scrubbing Medium Maintained?	pH
Maximum pH:	8.0
Minimum pH:	6.0
Maximum Oxidation Reduction Potential (mV):	
Minimum Oxidation Reduction Potential (mV):	

APPLICATION FOR AIR PERMIT MODIFICATION AND CONSOLIDATION OF FOUR AIR PERMITS

Submitted to:
New Jersey Department of Environmental Protection
Bureau of Stationary Sources
401 East State Street
Trenton, NJ 08625-0420

Submitted by:
Darling Ingredients Inc.
825 Wilson Ave.
Newark, NJ

Prepared by:

APTIM Environmental & Infrastructure, LLC
200 Horizon Center
Trenton, NJ 08691

August 2020

Table of Contents

INTRODUCTION 1

2.0 PROJECT DESCRIPTION 2

2.1 Consolidate Four Air Permits 2

2.2 Add Packed Tower Scrubber PTS-5 2

2.3 Replace Packed Tower Scrubber PTS-3 2

2.4 Implement RADOX Air Pollution Control Technology 3

2.5 Equipment Changes - New and Renamed Equipment 3

2.6 Extend and Modify Stacks 4

2.7 Incorporate the Odor Control Plan 4

3.0 SITE INFORMATION 5

3.1 Introduction 5

3.2 Rendering Process 5

3.2.1 Non-condensable Gas (NCG) 5

3.2.2 Other High Intensity Streams 6

3.2.3 Room Air and Silos 6

3.3 Grease House UCO Processing 8

3.3.1 High Intensity Streams 8

3.3.2 Room Air 9

3.4 Configuration of Odor Control Systems 9

3.4.1 Scrubber PTS-1 (Low pH Rendering Scrubber) – High Intensity 9

3.4.2 Scrubber PTS-2 (Low pH Rendering Scrubber) – High Intensity 10

3.4.3 Scrubber PTS-3 (Low pH Rendering Scrubber) – Low Intensity 11

3.4.4 Scrubber PTS-5 (High pH Rendering Scrubber) 11

3.5 Scrubber PTS-4 (Neutral pH Grease Scrubber) 12

4.0 EMISSIONS 14

4.1 Emissions - High Intensity Sources 14

4.2 Emissions - Low Intensity Sources 15

4.3 Emissions - Grease House 16

5.0 REGULATORY ASSESSMENT 17

5.1 NJAC 7:27-8 – Odor Control 17

5.2 NJAC 7:27-8 – Air Quality Impact Analysis (Risk Screening) 17

5.3 NJAC 7:27-8 State of the Art (SOTA) 17

5.4 NJAC 7:27-8 and NJAC 7:27-16 VOC RACT 18

List of Appendices

Appendix A Air Emissions Calculations

Appendix B Risk Screening Spreadsheets

Appendix C Rendering and Grease House Process Flow Chart

INTRODUCTION

Darling Ingredients Inc. (Darling) operates a food processing byproduct conversion facility that produces natural animal and vegetable derived protein and fat ingredients, which are used in the production of food, feed, fuel, and organic fertilizer at its Newark, NJ facility ("the Facility").

This Application for an Air Permit Application and Consolidation of four Air Permits was developed in partial response to conditions of the Judicial Consent Order (JCO), dated February 27, 2020, Docket No. C-188-19.

The JCO stipulates that the facility must implement certain improvements to its processes, procedures and air pollution controls to reduce odors. The facility is in the process of implementing improvements to the air pollution control systems, stacks, and operating procedures to reduce odors. Air pollution control improvements are detailed in the Odor Control Plan (OCP) prepared by Darling and approved/under review by the New Jersey Department of Environmental Protection (NJDEP).

The JCO also required that Darling prepare and submit an air permit application for the modifications to be implemented.

2.0 PROJECT DESCRIPTION

This air permit application is for modifications to the air permits at the Darling facility located at 825 Wilson Avenue, Newark. The modifications include the implementation of improvements to the facility its processes and air pollution controls to reduce odors.

The following general air permit modifications are being proposed:

- Consolidate four air permits into a single permit
- Add Packed Tower Scrubber PTS-5.
- Replace Packed Tower Scrubber PTS-3.
- Implement RADOX wet scrubber chemistry.
- Change/add equipment in the rendering and grease house processes
- Extend and modify scrubber discharge stacks.
- Incorporate the Odor Control Plan.

2.1 Consolidate Four Air Permits

The NJDEP Comments to the Odor Control Plan prepared and submitted by Darling indicate that four air permits are to be combined into one air permit.

Darling, therefore, is requesting with this application to consolidate the following four existing air permits into one permit:

- PCP 960003 Silo – 500 ton,
- PCP 960004 Silo – 500 ton,
- PCP 120003 Rendering Process Area,
- PCP 120002 Grease House.

2.2 Add Packed Tower Scrubber PTS-5

The facility has assessed the process and the emissions and determined that one additional packed tower scrubber (PTS-5) is necessary to assist in controlling emissions and odors from the facility's High Intensity Odor stream. PTS-5 (CD-3306) will be installed in the air pollution control system servicing the High Intensity Odor process following the rendering venturi scrubber (CD-3301) and before the existing packed tower scrubber PTS-1 (CD-3302) and packed tower scrubber PTS-2 (CD-3303).

PTS-5 will be a "HIGH pH" scrubber, operate at a pH range between 8 to 11 and will have a maximum flow rate of 12,000 cubic feet per minute (cfm). The scrubbing liquid will be a water and caustic solution. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals OH^0 and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds. The high pH PTS-5 scrubber will control hydrogen sulfide (H_2S) and numerous volatile organic compounds (VOCs).

2.3 Replace Packed Tower Scrubber PTS-3

The facility has determined that the existing packed tower scrubber PTS-3 has reached the end of its useful life. As such, the facility has procured a replacement in kind. PTS-3 (CD-3305) will be installed in the air pollution system servicing the Low Intensity Odor stream and will vent to stack PT-3302.

PTS-3 will be a "LOW pH" scrubber and will operate at a pH range between 3 to 6 and will have a maximum flow rate of 75,000 cubic feet per minute (cfm). The scrubbing liquid will be a water and acid solution. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds. The low pH PTS-3 scrubber will be highly effective in controlling nitrogen based odor compounds, such as ammonia, and will also control VOCs. The low intensity process is expected to generate predominantly nitrogen odor compounds.

2.4 Implement RADOX Air Pollution Control Technology

As part of the odor control assessment conducted and detailed in the Odor Control Plan, the facility determined that implementation of the RADOX odor air pollution control technology in all the packed tower scrubbers will be highly effective in reducing odors.

As the scrubber solution is pumped from the scrubber sump back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radical OH^0 and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds. The RADOX chemistry is an effective oxidizer at a wide pH rage. In that manner, it will be used at a high pH range of 8 to 11 in PTS 5, at a low pH range of 3 to 6 in PTS-1, PTS-2 and PTS-3, and at a neutral pH range of 6 to 8 in PTS-4.

2.5 Equipment Changes - New and Renamed Equipment

A review of the facility production processes was undertaken. During the review and assessment, certain equipment were identified for inclusion into the air permit application modification. Such equipment, was not previously included in the air permit, or may have been modified.

Change or add the following equipment to the Rendering process:

NJ ID Equipment Number	Equipment Description	Change Requested in this Application for Modification
E3305	Dewatering Press screen	MOD - NAME CHANGE
E3309	Centrifuge 3	MOD - NAME CHANGE
E3311	Air cooled condenser 4	REMOVED
E3314	Evaporator heat exchanger	MOD - NAME CHANGE
E3319	Slurry holding tank	MOD - NAME CHANGE
E3321	CRAX hopper	REMOVED - CHANGED TO FUGITIVES
E3330	Centrifuge 3 Grease	MOD - NAME CHANGE
E3331	Centrifuge 4 Grease	MOD - NAME CHANGE
E3339	Air cooled condenser 2	REMOVED
E3340	Air cooled condenser 3	REMOVED
E3346	Air cooled condenser 6	REMOVED
E3347	Aspirator	NEW
E3348	Air cooled condenser East	NEW
E3349	Air cooled condenser West	NEW
E3350	Cyclone 1	NEW
E3351	Cyclone 2	NEW

Add the following equipment to the Grease House Process:

NJ ID Equipment Number	Equipment Description	Change Requested in this Application for Modification
E3221	DAF 2	NEW

2.6 Extend and Modify Stacks

The facility plans to extend and modify the following stacks to enhance dispersion:

- Stack PT-3301 (Scrubber PTS-1) extend from 40 feet to 75 feet, with a flow of 75,000 cfm.
- Stack PT-3302 (Scrubber PTS-2) will be combined with Stack PT3303 (Scrubber PTS-3) and extend to 75 feet, with a combined flow of 150,000 cfm. The new combined stack will be numbered PT-3302.

2.7 Incorporate the Odor Control Plan

The ACO required the preparation of an Odor Control Plan (OCP). This application incorporates the OCP, as approved by the NJDEP, and as ordered by the February 27, 2020 JCO. The OCP details many of the steps being taken by the facility to reduce and eliminate odors.

3.0 SITE INFORMATION

3.1 Introduction

The Facility receives "grease" (used cooking oil, or UCO) by truck from roughly 12,000 restaurants and food processors. The UCO is refined to remove solids, water and any volatile contaminants, and stored in internal tanks or in the outdoor tank farm. The refined product is shipped to customers by tanker truck or by marine vessel, for primary use as an ingredient in the production of feed and renewable fuel.

The Facility also receives food processing byproducts (poultry, pork, beef, feathers, surplus meat, meat/fat/bone scraps, etc.) from roughly 1,200 slaughterhouses, butcher shops, meat markets and grocery stores. This material is processed (rendered) to separate it into two products: fats and proteins. Rendering involves a complex combination of thermal and mechanical separation steps with a primary focus on removing moisture. The fat is further refined to produce a marketable ingredient used primarily in the production of feed and renewable fuel. The protein is further refined to produce a marketable ingredient used primarily in the production of feed and organic fertilizer. Fats are shipped as a bulk liquid to customers by tanker truck or marine vessel. Protein is shipped to customers in bulk by truck/trailer. A process flow diagram is presented in Appendix C.

The Facility operates and maintains an extensive fleet of over 130 trucks and trailers to both collect raw materials and to deliver finished products. In addition, independent haulers (peddlers) are also utilized to collect raw materials and deliver finished products.

3.2 Rendering Process

Rendering is a multi-stage process that removes moisture and separates the byproducts into fat and protein.

Feathers must be pretreated at high temperature and pressure (i.e. hydrolyzed) to break down the materials prior to rendering. All materials initially pass through a grinder to provide a consistent slurry for further processing. The material passes through multiple steps of mechanical and thermal separation involving presses, screens, centrifuges, evaporators, and dryers. In the final stages of fat/tallow processing, residual solids removed are recycled into the process. The final protein stream is milled and screened to produce a consistent meal.

Water comprises roughly 60% of the incoming food processing byproducts. Water vapor removed in thermal processes is condensed, and the wastewater stream pretreated at the plant prior to discharge to the sewer. Solids recovered in the pretreatment process are recycled back into the conversion process.

Odors generated and released from these conversion processes are discussed in the following sections.

3.2.1 Non-condensable Gas (NCG)

The vapor emitted from the conversion process is mostly water but contains other compounds that volatilize during the process. This vapor stream passes through a condenser where the water and some compounds are condensed and removed as liquid. However, a small portion of the original vapor stream is not condensed and remains in gaseous form. This non-condensable gas (NCG) stream is very low volume (~1,000 cfm), but has high odor intensity: it contains mainly odorous gas with very little air.

The NCG stream will be the highest odor intensity stream at the facility. Therefore, the condenser and downstream ductwork to the odor control systems are sealed and operate under negative pressure to prevent NCG leakage into the processing room or to atmosphere and minimizing any contribution to fugitive odor emissions.

The NCG stream is diluted with high intensity streams from other processes and pass through the rendering venturi scrubber for primary treatment to remove aerosolized contaminants, soluble compounds and some odor. The resulting exhaust stream will be further diluted with room air and receives final treatment in the packed tower scrubbers, high pH chemical scrubber (Scrubber PTS-5) and the low pH scrubbers PTS-1/PTS-2 prior to release to the atmosphere.

While NCG can affect the final odor emission from the odor control system, it will pass through three stages of treatment, and is diluted by more than a factor of 50 before discharge.

3.2.2 Other High Intensity Streams

High intensity odor streams are collected at numerous pieces of process equipment.

The ductwork from point of collection through to the odor control systems is sealed and operates under negative pressure to prevent leakage into the processing room or to atmosphere. That is, these high intensity streams, once captured, do not contribute to fugitive odor emissions.

The high intensity streams are passed through the rendering venturi scrubber for primary treatment to remove aerosolized contaminants, soluble compounds and some odor. The resulting exhaust stream is then diluted with room air and receives final treatment in the packed tower scrubbers, high pH chemical scrubber (Scrubber PTS-5) and the low pH scrubbers PTS-1/PTS-2 prior to release to the atmosphere.

While these high intensity streams can affect the final odor emission from the odor control system, they will pass through three stages of treatment, and are diluted before discharge.

3.2.3 Room Air and Silos

Much of the rendering process, from raw receiving through to final separation, is done in equipment/processes that are open or not fully sealed. As a result, there can be the emission of odor into the general processing room air.

Room air from the byproduct receiving and rendering areas is treated in three packed tower chemical scrubbers. Room air may be vented to Scrubbers PTS-1, PTS-2 and PTS-3 prior to discharge to atmosphere. Induced draft fans on the discharge of the scrubbers maintain the entire system (room, ductwork, scrubbers) under negative pressure to minimize or eliminate the potential for odorous gas leakage prior to treatment.

The two silos which were independently permitted in the past will be ducted to the rendering room, and the emissions will become part of the room air and be treated by the scrubbers.

3.2.4 Grinding Room

The protein is conveyed from the dryer to the grinding room where it is milled and screened to produce finished protein meal which is conveyed from the grinding room to finished meal storage silos. The silos are vented back into the rendering room (see Section 3.2.3, above).

The protein contains certain levels of moisture and fat and, as such, its ability to become airborne as a dust is limited. At this stage of processing the meal has a relatively low, but still detectable odor.

The grinding room is maintained under negative pressure, and the general exhaust from the room is treated in Scrubber PTS-1 along with rendering room air. Given the low level of odor in grinding room air compared to other sources treated in Scrubber PTS-1, the grinding room is expected to have minimal effect on odor emissions from Scrubber PTS-1.

3.3 Grease House UCO Processing

Used Cooking Oil (UCO) from restaurants or food processors is initially heated in trucks or barrels to ease and speed the emptying of the vessels. The heating and emptying of vessels are done within the grease room, and are a potential source of odor within the room.

The raw material is then piped to a rotary screen to remove solids. The UCO is then preheated to about to 250°F to drive off any moisture or volatile contaminants as vapor. The remaining liquid is passed through centrifuges to remove other contaminants. The final product is then pumped to indoor storage tanks. These processes and transfers are within sealed equipment and piping systems.

Odors generated and released from the rendering processes are discussed in the following sections.

3.3.1 High Intensity Streams

High intensity exhaust streams are captured at UCO processing equipment, such as:

- Barrel heating / emptying tunnel;
- Barrel washing;
- Rotary screen;
- Condenser (non-condensable vapor generated in Preheater); and
- Indoor tank vents.

These streams have the potential to include UCO aerosol/vapor and odor. While the odor intensity of these sources is not as high as that of the NCG, it must be controlled and treated. The ductwork from point of collection through to the odor control systems is sealed and operates under negative pressure to prevent leakage into the

processing room or to the atmosphere. That is, these high intensity streams, once captured, do not contribute to fugitive odor emissions.

The high intensity streams are passed through the UCO venturi scrubber for primary treatment to remove aerosolized contaminants (fats and oils), soluble compounds and some odor. The resulting exhaust stream is then diluted with room air and receives final treatment in a packed tower chemical scrubber (Grease Scrubber PTS-4) prior to release to the atmosphere.

While these high intensity streams can affect the final odor emission from the odor control system, they pass through two stages of treatment, and are diluted before discharge.

3.3.2 Room Air

Room air from the UCO processing areas is treated in a packed tower chemical scrubber (Grease Scrubber PTS-4) prior to discharge to the atmosphere. An induced draft fan on the discharge of the scrubber maintains the entire system (room, ductwork, scrubbers) under negative pressure to minimize or eliminate the potential for odorous gas leakage prior to treatment.

While room air exhaust streams can affect the final odor emission from the odor control system, they pass through packed-tower chemical scrubbers before discharge.

3.4 Configuration of Odor Control Systems

After the changes to this permit are approved and implemented, there will be five packed tower scrubber odor control systems at the facility that can operate independently, though there is some overlap in the sources that are captured and treated.

All five systems include gas collection ductwork, a final packed tower scrubber, an induced draft fan, and a discharge stack. Two of the systems also include primary treatment of high intensity sources in a venturi scrubber prior to final treatment.

Schematics of the systems, including basic configuration are provided as part of the air emissions calculations (See Appendix A).

The following sections describe the systems and the process areas served by each. The systems are identified based on the designation of the final scrubber in the system.

3.4.1 Scrubber PTS-1 (Low pH Rendering Scrubber) – High Intensity

After the changes to this permit are approved and implemented, PTS-1 will normally operate as one stage of a three-stage odor treatment system. Room air will be collected from four areas associated with rendering, including:

- Rendering room (i.e. rendering area within the main processing building);

- Dryer room;
- Evaporator tower room; and
- Grinding room.

As a contingency measure, the exhaust stream from the rendering venturi scrubber and Scrubber PTS-5 can be manually diverted to the collection ductwork for Scrubber PTS-1, or Scrubber PTS-2, or both. This provides a level of redundancy for treatment of the most odorous gases.

The gas stream is ducted to the inlet of a 75,000 cfm, vertical, packed-tower chemical scrubber (Scrubber PTS-1) for odor treatment. An aqueous acid solution is used as the scrubbing liquid. Concentration of acid in solution is controlled based on pH feedback. The operational pH range will be 3 to 6. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds.The scrubber is equipped with a mist eliminator to remove liquid phase solution from the gas stream prior to discharge.

The scrubber discharges into an induced draft fan that maintains the collection ductwork and scrubber under negative pressure. The fan will exhaust through a stack (PT3301) discharging at 75 feet above grade.

3.4.2 Scrubber PTS-2 (Low pH Rendering Scrubber) – High Intensity

After the changes to this permit are approved and implemented, this system will normally operate as one stage of a three-stage odor treatment system.

High intensity gas streams are collected from direct connections to rendering processes, such as:

- Condenser (non-condensable gas);
- Hydrolyzer;
- Preheater;
- Evaporator;
- Press,
- Rotary screen; and
- Centrifuges.

These streams are generally at high temperature, and most have high odor potential, and high grease (aerosol and vapor) loading.

The high intensity stream receives primary treatment in the rendering venturi scrubber to remove aerosols and particulate, and to cool the gas stream. An induced draft fan draws gas through the venturi, maintaining suction in the high intensity collection ductwork. Discharge from the fan is first discharged to Scrubber PTS-5 (See Section 3.4.4 below). Subsequently, the treated air is mixed with room air collected from the Rendering room (i.e. rendering area within the main processing building) and ducted to scrubber PTS-2, PTS-1 or both.

As a contingency measure, the exhaust stream from the rendering venturi scrubber and PTS-5 can be manually diverted to the collection ductwork for Scrubber PTS-1, or PTS-1 and PTS-2. This provides a level of redundancy for treatment of the most odorous gases.

The combined gas stream is ducted to the inlet of a 75,000 cfm, vertical, packed-tower chemical scrubber (Scrubber PTS-2) for the final stage of odor treatment at a low pH. An aqueous acid solution is used as scrubbing liquid. Concentration of acid in solution is controlled based on pH feedback. The operational pH range will be 3 to 6. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds. The scrubber is equipped with a mist eliminator to remove liquid phase solution from the gas stream prior to discharge.

The scrubber discharges into an induced draft fan that maintains the collection ductwork and scrubber under negative pressure. The fan exhausts through a stack (PT3302) discharging at 75 feet above grade.

3.4.3 Scrubber PTS-3 (Low pH Rendering Scrubber) – Low Intensity

After the changes to this permit are approved and implemented, this system will operate as a single-stage odor treatment system. Room air from receiving and rendering areas is collected from a single point in the north east section of the main process building.

The gas stream is ducted to the inlet of a 75,000 cfm, vertical, packed-tower, chemical scrubber (Scrubber PTS-3) for odor treatment. An aqueous acid solution is used as scrubbing liquid. Concentration of acid in solution is controlled based on pH feedback. The operational pH range will be 3 to 6. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds.. The scrubber is equipped with a mist eliminator to remove liquid phase solution from the gas stream prior to discharge.

The scrubber discharges into an induced draft fan that maintains the collection ductwork and scrubber under negative pressure. The fan will exhaust through a stack (PT3302) discharging at 75 feet above grade.

3.4.4 Scrubber PTS-5 (High pH Rendering Scrubber)

After the changes to this permit are approved and implemented, this system will operate as a three-stage odor treatment system in conjunction with the rendering venturi and scrubber PTS-2 (or PTS-1).

High intensity gas streams are collected from direct connections to rendering processes, such as:

- Condenser (non-condensable gas);
- Hydrolyzer;
- Preheater;
- Evaporator;
- Press,
- Rotary screen; and

- Centrifuges.

These streams are generally at high temperature, and most have high odor potential, and high grease (aerosol and vapor) loading.

The high intensity stream receives primary treatment in the rendering venturi scrubber to remove aerosols and particulate, and to cool the gas stream. An induced draft fan draws gas through the venturi, maintaining suction in the high intensity collection ductwork. Discharge from the fan is first discharged to Scrubber PTS-5. Subsequently, the treated air is mixed with room air collected from the Rendering room (i.e. rendering area within the main processing building), and vented directly to scrubbers PTS-2/PTS-1 (see Section 3.4.1 and 3.4.2 above).

As a contingency measure, the exhaust stream from the rendering venturi scrubber and Scrubber PTS-5 can be manually diverted to the collection ductwork for Scrubber PTS-1 or Scrubber PTS-2, or both. This provides a level of redundancy for treatment of the most odorous gases.

Packed-tower chemical scrubber (Scrubber PTS-5) operates with an aqueous caustic solution as a scrubbing liquid. Concentration of caustic in solution is controlled based on pH feedback. The operational pH range will be 8 to 11. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds.. The scrubber is equipped with a mist eliminator to remove liquid phase solution from the gas stream prior to discharge.

The scrubber discharges into Scrubber PTS-1 or Scrubber PTS-2, or both and ultimately to induced draft fans that maintain the collection ductwork and scrubbers under negative pressure. The fans exhaust through two stacks (PT3301 and PT3302) discharging at 75 feet above grade.

3.5 Scrubber PTS-4 (Neutral pH Grease Scrubber)

This system operates as a two-stage odor treatment system.

High intensity gas streams are collected from direct connections to grease processes, such as:

- Barrel heater
- Drum washer;
- Rotary screen;
- Preheater condenser (non-condensable gas); and
- Grease storage tanks;

These streams are generally at warm temperature, and most have high odor and grease (aerosol and vapor) loading.

The high intensity stream receives primary treatment in the grease venturi scrubber to remove aerosols and particulate, and to cool the gas stream. An induced draft fan draws gas through the venturi, maintaining suction in the high intensity collection ductwork. Discharge from the fan is mixed with room air collected from the Grease Room (i.e. grease processing area within the main processing building)

The combined gas stream is ducted to the inlet of a 32,000 cfm, vertical, packed-tower, chemical scrubber (PTS-4 Grease Scrubber) for final stage of odor treatment. An aqueous acid solution is used as scrubbing liquid. Concentration of acid in solution is controlled based on pH feedback. The operational pH range will be 3 to 6. As the solution is pumped from the bottom of the scrubber back up to the spray nozzles, the RADOX precursor chemicals are added in the recycle loop. The precursors react to form highly reactive hydroxyl radicals $OH^0$and OH_2^0. These two highly reactive oxidizers destroy complex organic and inorganic odor compounds.The scrubber is equipped with a mist eliminator to remove liquid phase solution from the gas stream prior to discharge.

The scrubber discharges into an induced draft fan that maintains the collection ductwork and scrubber under negative pressure. The fan exhausts through a stack (PT3401) discharging at 36 feet above grade.

4.0 EMISSIONS

Emissions have been calculated based upon previous stack test sampling data for the facility, the data collected during the Environmental Improvement Pilot Test (EIPT) conducted in June of 2020, standard engineering calculations, ideal gas law and Darling's experience with similar systems. Emissions calculations are presented in Appendix 2.

This air permit application proposes the following emissions for the combined permits:

- Ammonia 4.759 tons/year
- VOC 15.500 tons/year
- H2S 1.623 tons/year
- TSP 2.379 tons/year
- PM10 0.267 tons/year

4.1 Emissions - High Intensity Sources

Emissions calculations are presented in Appendix A. Darling conducted an EIPT at the Newark facility in June of 2020. The EIPT sought to determine emissions and potential control associated with the proposed RADOX scrubber chemistry while using a low pH scrubber solution. See Sections 2 and 3 above for further information on the RADOX system. The results of the EIPT are as follows:

EIPT TEST RESULTS (6/2/2020)

Operating Scenario	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	**Low pH with grinding**	Average
Date of Sampling	6/2/2020	6/2/2020	6/4/2020	6/4/2020	6/4/2020	6/4/2020	6/4/2020	6/4/2020	
Time of Sampling	15:00	18:00	12:15	13:15	14:00	14:30	15:00	15:50	
pH	3.54	3.65	3.54	3.1	4.2	3.8	3.48	3.2	
Acid Dose Rate liters/hour			8.6	6.5	22	22	22	7.7	
RADOX Pre A ml/minute	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
RADOX Pre B ml/minute	75	100	100	100	100	100	100	100	
PTS-1 Recycle Rate GPM	766	770	748	770	760	755	750	774	
PTS-1 Air Flow SCFM	51900	51900	51900	51900	51900	51900	51900	51900	

Operating Scenario	Low pH with grinding	Low pH with grinding	Low pH with grinding	Low pH with grinding	Low pH with grinding	Low pH with grinding	Low pH with grinding	Low pH with grinding	Average
HYDROGEN SULFIDE									
H2S IN ppm	6.0	2.0	4.0	9.0	11.0	8.0	5.0	7.0	6.5
H2S OUT ppm	5.0	2.0	4.0	10.0	10.0	7.5	5.0	7.0	6.3
AMMONIA									
NH3 IN ppm	110.0	48.0	100.0	180.0	600.0	550.0	600.0	100.0	286.0
NH3 OUT ppm	0.0	0.0	0.0	0.0	3.0	2.0	3.0	0.0	1.0
VOC									
PID VOC IN ppm	17.6	14.2	16.4	37.4	42.0		37.0	14.0	25.5
PID VOC OUT ppm	11.2	5.1	12.2	16.1	4.7		1.7	5.7	8.1

The concentrations of ammonia observed in the EIPT were used to calculate hourly and annual emissions. Ammonia is very efficiently controlled at a low pH and is removed at greater than 99% efficiency. Scrubbers PTS-1 and PTS-2, therefore will be effective at controlling ammonia emissions.

The concentrations of VOC observed in the EIPT were used to calculate hourly and annual emissions. The VOC removal efficiency at low pH was observed to be in the 60-70% range. VOC, however, is controlled at a much greater efficiency in the mid- to high pH range. Scrubber PTS-5 will run at a pH of 8 to 11, and will, therefore, be very effective in controlling VOC emissions. Based on the experience of Darling and Steen Research (RADOX chemistry supplier) the VOC control efficiency of PTS-5 and PTS-1/PTS-2 combined will be greater than 90%.

The concentrations of hydrogen sulfide observed in the EIPT were used to calculate hourly and annual emissions. Hydrogen sulfide is better controlled in the mid- to high pH range. Scrubber PTS-5 will run at a pH of 8 to 11, and will, therefore, be very effective in controlling hydrogen sulfide emissions. Based on the experience of Darling and Steen Research (RADOX chemistry supplier) the H2S control efficiency of PTS-5 and PTS-1/PTS-2 combined will be greater than 92%.

The concentrations of particulates as listed in the facility's 1995 air permit application, indicate that the emissions are based upon previous air emissions measurements totalling 0.70 pounds per hour for all three stacks combined after control. It is assumed that the two stacks venting the high intensity area account for 70% of the particulate emissions. The high intensity area, therefore, is assumed to emit 0.49 pounds of particulates per hour. Particulate emissions are expected to be removed by the venturi as well as PTS-5, PTS-1 and PTS 2 at an efficiency of 95% minimum.

4.2 Emissions - Low Intensity Sources

Emissions calculations for the room air/low intensity sources are based upon extrapolations of the results collected during the EIPT, as well as Darling experience with such systems.

The concentrations of ammonia observed in the EIPT were used to calculate hourly and annual emissions. Ammonia is very efficiently controlled at a low pH and is removed at greater than 99% efficiency. Scrubber PTS-3, therefore will be effective at controlling ammonia emissions. The low intensity sources (PTS-3) are assumed to emit approximately 27% of the ammonia that the high intensity sources (PTS-1 and PTS2) emit on a combined basis. This assumption is based upon the data from the facility's May 15, 1995 stack test.

The concentrations of VOC observed during the facility's May 15, 1995 stack test were used to calculate hourly and annual emissions. VOC emissions are expected to be controlled in the 25% range with a low pH scrubber. In fact, the majority of the low-intensity source emissions are expected to be nitrogen compound (ammonia) emissions and VOCs are expected to be much lower.

The concentrations of hydrogen sulfide observed during the facility's May 15, 1995 stack test were used to calculate hourly and annual emissions. Hydrogen sulfide emissions are not expected to be controlled in the low pH scrubber. The low intensity sources (PTS-3) are assumed to emit very low hydrogen sulfide in comparison to the high intensity sources (PTS-1 and PTS2)The data presented in the facility's May 15, 1995 stack test indicated that hydrogen sulfide emissions at the stacks were below the method detection limit. In fact, the majority of the low-intensity source emissions are expected to be nitrogen compound (ammonia) emissions and VOCs are expected to be much lower than the calculated emissions.

The concentrations of particulates as listed in the facility's 1995 air permit application, indicate that the emissions are based upon existing air emissions measurements totalling 0.70 pounds per hour for all three stacks combined after control. It is assumed that the stack venting the low intensity area account for 30% of the particulates emissions. Particulate emissions are expected to be removed by PTS-3 at an efficiency of 95% minimum.

4.3 Emissions - Grease House

The raw grease is transported to the site in drums or tanker trucks. The drums are unloaded to the hot water tunnels and the tanker trucks unload to the grease pit. The grease drums get heated in the hot water tunnels before being dumped into the screw conveyor. This screw conveyor takes the raw grease to the rotary screen/holding tank. The rotary screen separates the solids from the liquids. The solid material is conveyed by the screw conveyor #1 to the rendering pit (under different air permit). The liquid material drops to a temporary storage container/tank where it is pumped and temporarily stored in process tanks.

Grease arriving at the facility in tanker trucks is unloaded into the hopper pit. The grease is then pumped to a temporary grease storage tank. From the tank the grease is then pumped to the rotary screen where it goes through the same process as detailed above.

Grease house emissions are primarily made up of VOCs. Heating and displacement calculations based on the ideal gas law were utilized to calculate VOC emissions. A control efficiency for scrubber PTS-4 of 95% is assumed.

5.0 REGULATORY ASSESSMENT

5.1 NJAC 7:27-8 – Odor Control

As required by NJAC 7:27-Subchapter 8 of New Jersey's air permitting regulations, the following assessment of the facility's proposed emissions was performed:

NJAC 7:27-8.4(q)(7): If the permit and certificate shall cover a rendering operation, the application, shall also include a demonstration that appropriate odor prevention measures will ensure compliance with the regulatory odor provisions.

> **ASSESSMENT:** As required by the JCO, Darling prepared an Odor Control Plan (OCP). The OCP has been submitted and approved by the NJDEP and is included here by reference. The OCP satisfies the requirements of NJAC 7:27-8.4(q)(7).

5.2 NJAC 7:27-8 – Air Quality Impact Analysis (Risk Screening)

As required by NJAC 7:27-Subchapter 8 of New Jersey's air permitting regulations, the following assessment of the facility's proposed emissions was performed.

NJAC 7:27-8.5 Air quality impact analysis: An application shall include an air quality impact analysis if the Department determines that an air quality impact analysis is required for an accurate assessment of the environmental impact of the activities proposed. According to NJDEP guidance the word proposed implies new or modified equipment (Memorandum "Procedures to Conduct Risk Assessments to Determine the Incremental Health Risks from New or Modified Equipment" dated October 26, 2010, from John Preczewski, P.E., Assistant Director, Air Quality Permitting Program).

> **ASSESSMENT:** A risk screening procedure was conducted and is presented in Appendix B. Short- and long-term risks associated with new and modified sources are negligible.

5.3 NJAC 7:27-8 State of the Art (SOTA)

As required by NJAC 7:27-Subchapter 8 of New Jersey's air permitting regulations, the following assessment of the facility's proposed emissions was performed.

NJAC 7:27-8.12: State of the Art (SOTA). If an application proposes construction, installation, reconstruction, or modification of equipment and control apparatus that is a significant source meeting the following criteria, the applicant shall document state of the art (SOTA) for the source:

> 1. The equipment and control apparatus have a potential to emit any HAP at a rate equal to or greater than the SOTA Threshold at N.J.A.C. 7:27-17.9(b); or
>
> 2. The equipment and control apparatus have a potential to emit any other air contaminant or category of air contaminant, except carbon dioxide (CO2), at a rate equal to or greater than the SOTA threshold in Appendix 1, Table A incorporated herein by reference.

ASSESSMENT: Ammonia and hydrogen sulfide are not listed under NJAC 7:27-17.9. The calculated potential VOC emissions for the new and proposed sources IS 35.62 tons per year, which is greater than the NJAC 7:27-8 – Appendix 1, Table A threshold of 5 tons/year for VOC. The state of the art air pollution control for VOCs from a rendering operation is a High pH packed tower scrubber achieving 90% VOC air pollution control. The High Intensity sources will be controlled by a High pH packed tower.

5.4 NJAC 7:27-8 and NJAC 7:27-16 VOC RACT

As required by NJAC 7:27-Subchapter 8 of New Jersey's air permitting regulations, the following assessment of the facility's proposed emissions was performed.

NJAC 7:27-8.11(a)(1)(i): Standards for issuing a permit - RACT requirements under N.J.A.C. 7:27-16. Assume VOC is Isobutane, as measured.

NJAC 7:27-16.16

(d)(1) Vapor Pressure of Isobutane 30.7 PSIA

(d)(2) INLET VOC CONCENTRATION 25.5 ppmv

INLET VOC % by Volume 0.0026%

(d)(3) Not Applicable

(d)(4) If Vapor Pressure >=14.7 PSIA and VOC % by Volume <=0.1% (1,000 ppm), then the Gas is in RANGE A

(d)(5) From Table 16A

The maximum allowable emission rate is the pounds per hour equivalent to the percent of the process emissions shown in Column 2 or the Exclusion Rate shown in Column 3, whichever is greater.

Column 2 - Allowable % of Process Emissions is 15%

Column 3 - Exclusion Rate = 3.5 lb VOC/Hour allowed

ASSESSMENT:

Column 3 - Exclusion Rate = 3.5 lb VOC/Hour allowed

ANALYSIS: Emissions after control for each Packed Tower Scrubber are calculated to be <3.5 lb VOC/hour

APPENDIX A

EMISSIONS CALCULATIONS

DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

Table of Contents

1.0 Emission Summary
- 1.1 HOURLY Emission Rate Summary at stack
- 1.2 ANNUAL Emission Summary at stack
- 1.3 Risk Screening

2.0 Figures
- 2.1 Rendering
- 2.2 Grease

3.0 Rendering High Intensity sources
- 3.1 Conversion formulas and Concentration data
  - 3.1.1 Conversion from ppmv to mg/m3
  - 3.1.2 Conversion from mg/m3 to lb/hr
  - 3.1.3 Conversion from lb/hr to tons/year
  - 3.1.4 Measured Concentration Before and After Control (June 2020 EIPT)
  - 3.1.5 Expected Concentration/Emission Rate After Control
  - 3.1.6 Expected Air Pollution CONTROL EFFICIENCIES
- 3.2 Ammonia Emission Rate Calculation
  - 3.2.1 HOURLY Emission Rate Calculation
  - 3.2.2 ANNUAL Emission Rate Calculation
- 3.3 VOC (Non Methane) Emission calculation
  - 3.3.1 HOURLY Emission rate calculation
  - 3.3.2 ANNUAL Emission Rate Calculation
- 3.4 Hydrogen Sulfide Emission Calculation
  - 3.4.1 HOURLY Emission Rate Calculation
  - 3.4.2 ANNUAL emission calculation
- 3.5 TSP & PM10 Emission calculation
  - 3.5.1 TSP & PM10 HOURLY Emission Rate calculation PROCESS EQUIPMENT
  - 3.5.2 TSP & PM10 ANNUAL emission calculation PROCESS EQUIPMENT
  - 3.5.3 TSP & PM10 HOURLY Emission Rate calculation SILOS
  - 3.5.4 TSP & PM10 ANNUAL Emission Rate Calculation SILOS
  - 3.5.5 Total TSP & PM10 HOURLY Emission Rate calculation for Process Equipment & Silos
  - 3.5.6 Total TSP & PM10 ANNUAL emission for Process Equipment & Silos
- 3.6 Emissions rate by source
  - 3.6.1 High Intensity Sources
  - 3.6.2 The CRAX regrind hopper

4.0 Rendering Low Intensity sources
- 4.1 Conversion formulas and Concentration data
  - 4.1.1 Conversion from ppmv to mg/m3
  - 4.1.2 Conversion from mg/m3 to lb/hr
  - 4.1.3 Conversion from lb/hr to tons/year
  - 4.1.4 Pollutant Concentration Assumptions
  - 4.1.5 Concentration Before Control
  - 4.1.6 Calculated Concentration After Control
  - 4.1.7 Control Efficiencies
- 4.2 Ammonia Emission Rate Calculation
  - 4.2.1 HOURLY Emission Rate Calculation
  - 4.2.2 ANNUAL emission calculation
- 4.3 VOC Emission calculation
  - 4.3.1 VOC Truck Deodorizer Emissions (OS1 - Raw Material Pit Only)
  - 4.3.2 HOURLY Emission rate calculation (Process)
  - 4.3.3 ANNUAL Emission Rate Calculation (Process + Truck Deodorizer)
- 4.4 Hydrogen Sulfide Emission Rate Calculation
  - 4.4.1 HOURLY Emission Rate Calculation
  - 4.4.2 ANNUAL Emission Rate Calculation

4.5 TSP & PM10 Emission Rate Calculation
4.5.1 TSP & PM10 HOURLY Emission Rate calculation Process Equipment
4.5.2 TSP & PM10 ANNUAL emission calculation Process Equipment
4.6 Emissions Rates by Source

5.0 Grease Process
5.1 Process description, data & assumptions
5.2 Grease VOC Emission Calculation
5.2.1 Heating VOC Emissions
5.2.1.1 Number of Moles Displaced (ns) calculation
5.2.1.2 Heating calculation per drum
5.2.1.3 Heating hourly Emission rate
5.2.1.4 Heating annual emission
5.2.2 Displacement VOC emission
5.2.2.1 Rate of Displacement calculation
5.2.2.2 Displacement hourly emission calculation
5.2.2.3 Displacement Hourly Emission Rate
5.2.2.4 Displacement Annual Emission
5.3 Grease Annual and Hourly Emission rate by Source

DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

1.0 Emission Summary

1.1 HOURLY Emission Rate Summary at stack

	High Intensity (lbs/hr)		Low intensity (lbs/hr)		Grease (lbs/hr)		**TOTAL (lbs/hr)**
	Before control	After control	Before control	After control	Before control	After control	
Ammonia =	111.927	1.1193	15.110	0.1511	------	------	1.270
VOC =	32.880	3.2880	1.108	0.8306	0.359	0.018	4.137
Hydrogen Sulfide =	5.091	0.4072	0.026	0.0261	------	------	0.433
TSP =	8.929	0.4464	3.780	0.1890	------	------	0.635
PM10 =	1.007	0.0504	0.420	0.0210	------	------	0.071

1.2 ANNUAL Emission Summary at stack

	High Intensity (ton/yr)		Low intensity (ton/yr)		Grease (ton/yr)		**TOTAL (Tons/Year)**
	Before control	After control	Before control	After control	Before control	After control	
Ammonia =	419.054	4.193	56.572	0.566	------	------	4.759
VOC =	123.103	12.311	4.147	3.110	1.574	0.079	15.500
Hydrogen Sulfide =	19.059	1.525	0.098	0.098	------	------	1.623
TSP =	33.428	1.671	14.152	0.708	------	------	2.379
PM10 =	3.771	0.189	1.572	0.079	------	------	0.267

1.3 Risk Screening

A total of 13 pieces of equipment are being added/modified that have Ammonia and Hydrogen Sulfide emissions.
Below is a table used for the Risk Screening tool.

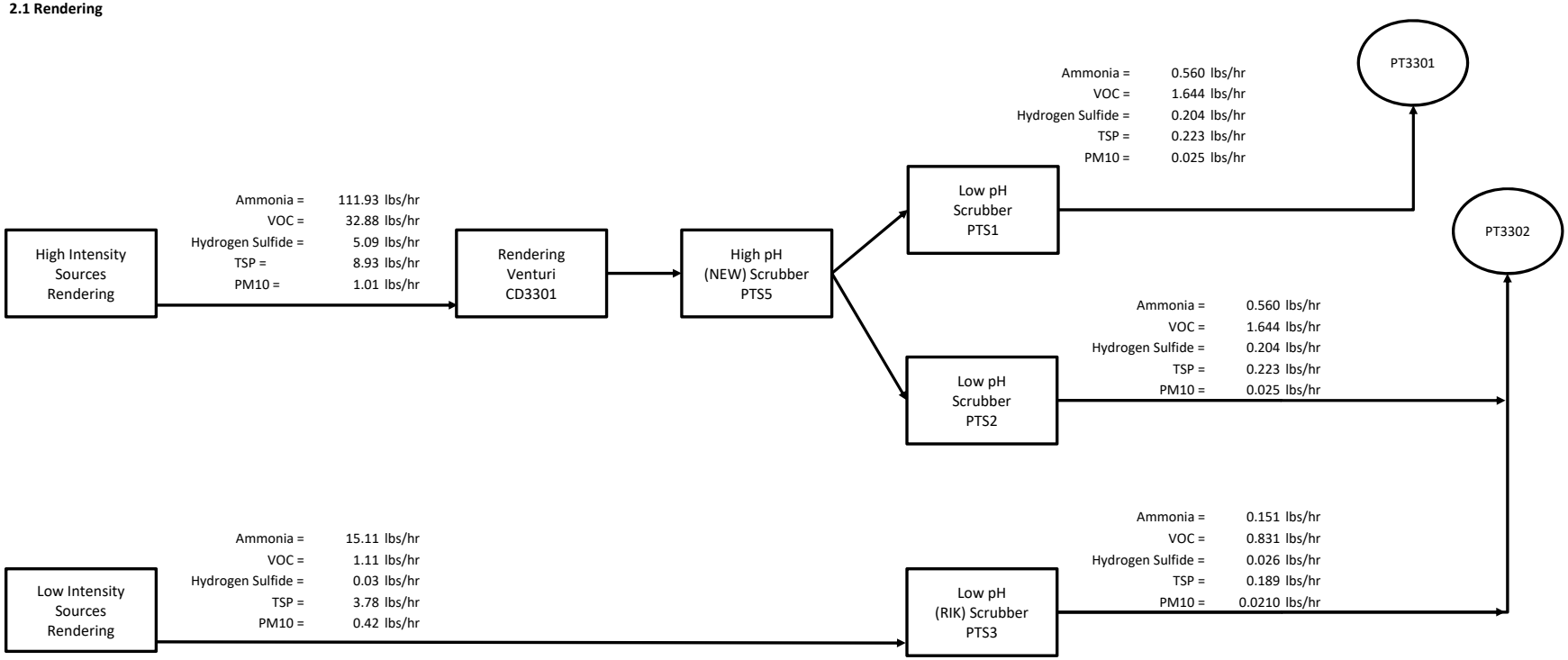
	Ammonia		H2S	
New /Modified Equipment Risk Screening after control	lbs/hr	0.3459	lbs/hr	0.1201
(Includes High and Low Intensity)	tons/yr	1.2951	tons/yr	0.4496

DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

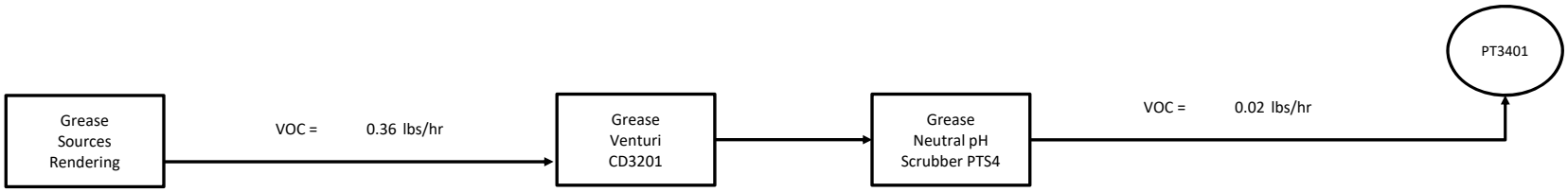
2.0 Figures

2.1 Rendering



(RIK) = Replacement In Kind

2.2 Grease



DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

3.0 Rendering High Intensity sources

3.1 Conversion formulas and Concentration data

3.1.1 Conversion from ppmv to mg/m3

mg/m3 = ((ppm x MW) / 24.45) x [(P/Po)x(To/T)]

Where:
- ppm = parts per million by volume (INPUT)
- MW = Molecular weight
- 24.45 = Ideal gas law constant
- P = Observed pressure in atmospheres = 1 Atmospheres
- Po = 1 atmosphere
- T = Observed temperature in degrees F = 77 Degrees F
- T = (Degrees F + 459.67)/1.8
- T = 298.15 Degrees K
- To = 298.15 degrees K

3.1.2 Conversion from mg/m3 to lb/hr

lb/hr = mg/m3 x (1 m3/35.314 ft3) x (1 g/1,000 mg) x (1 lb/453.59 g) x (ft3/min) x (60 min/hr)

Where: mg/m3 is an INPUT

- 1000 mg/g
- 35.314 ft3 /m3
- 453.59 g/lb
- 150000 ft3/min = designed volumetric flow rate
- 60 min/hr

3.1.3 Conversion from lb/hr to tons/year

tons/year = (lb/hr x hours/year) / 2000 lb/ton

where: lb/hr is an INPUT

- 7488 hours/year (24 hr/day x 6 day/wk x 52 wk/yr)
- 2000 lb/ton

3.1.4 Measured Concentration Before and After Control (June 2020 EIPT)

	INLET ppmv	OUTLET ppmv	Control Efficiency %	
Ammonia =	286	1	99.65	Source: Enviromental Improvement Pilot Test (EIPT) from June 2020 (Low pH Scrubber ONLY)
VOC =	25.5	8.1	68.24	Source: Enviromental Improvement Pilot Test (EIPT) from June 2020 (Low pH Scrubber ONLY)
Hydrogen Sulfide =	6.5	6.3	3.08	Source: Enviromental Improvement Pilot Test (EIPT) from June 2020 (Low pH Scrubber ONLY)

3.1.5 Expected Concentration/Emission Rate After Control

Ammonia =	2.86	ppmv	Basis: EIPT observed INLET concentration and EXPECTED Air Pollution Control Eficiency
VOC =	2.55	ppmv	Basis: EIPT observed INLET concentration and EXPECTED Air Pollution Control Eficiency
Hydrogen Sulfide =	0.52	ppmv	Basis: EIPT observed INLET concentration and EXPECTED Air Pollution Control Eficiency
Total Particulate (Process Equipment) =	0.70	lbs/hr	Basis: Darling Newark 1995 Air Permit. Emission rate is for PTS1, PTS2 & PTS3 COMBINED.
Total Particulate (Process Equipment) =	70%		For PTS1 & PTS2 (Assumption of 70% emission rate of the permitted rate for 3 stacks)
Total Particulate (Process Equipment) =	0.49	lbs/hr	PTS1 & PTS2
TSP (Process Equipment) =	0.44	lbs/hr	Assumes that TSP is 90% of the total Particulate emission.
PM10 (Process Equipment) =	0.05	lbs/hr	Assumes that PM10 is 10% of the total Particulate emission.
TSP (Silos) =	0.109	lbs/hr	Basis: AP-42 "Table 9.9.1-1 uncontrolled emissions for storage bins" based on 0.025 lb/ton
PM10 (Silos) =	0.027	lbs/hr	Basis: AP-42 "Table 9.9.1-1 uncontrolled emissions for storage bins" based on 0.0063 lb/ton
			Two Silos process up to 65,000,000 lb/yr = 32500 tons/yr at 7488 hr/yr

3.1.6 Expected Air Pollution CONTROL EFFICIENCIES

Ammonia removal effciency =	99%	Actual expected Air Pollution Control Efficiency based upon Darling experience (High pH and Low pH Scrubbers)
VOC removal effciency =	90%	Actual expected Air Pollution Control Efficiency based upon Darling experience (High pH and Low pH Scrubbers)
Hydrogen Sulfide removal effciency =	92%	Actual expected Air Pollution Control Efficiency based upon Darling experience (High pH and Low pH Scrubbers)
TSP / PM10 (Process Equipment) =	95%	Basis: Expected air pollution control efficiency for particulates.

3.2 Ammonia Emission Rate Calculation

3.2.1 HOURLY Emission Rate Calculation

Average Air sample result, taken before and after control.

Where:

Ammonia MW = 17.03

HOURLY Emission Rate Before control

Air sample concentration (ppmv) = 286 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 199.21 mg/m3

Emission rate = 111.927 lbs/hr

HOURLY Emission Rate After control

Air sample concentration (ppmv) = 2.86 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 2.0 mg/m3

Emission rate = 1.119 lbs/hr

Control Efficiency

Control efficiency = 99.00%

3.2.2 ANNUAL Emission Rate Calculation

ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 111.93 lbs/hr

Annual Emission = 419.05 tons/yr

ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate = 1.12 lbs/hr

Annual Emission = 4.19 tons/yr

3.3 VOC (Non Methane) Emission calculation

3.3.1 HOURLY Emission rate calculation

Average Air sample result, taken before and after control.

Where:

Isobutylene MW = 56.11

HOURLY Emission Rate Before control

Air sample concentration (ppmv) = 25.50 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 58.52 mg/m3

Emission rate = 32.880 lbs/hr

HOURLY Emission Rate After control

Air sample concentration (ppmv) = 2.55 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 5.9 mg/m3

Emission rate = 3.288 lbs/hr

Control Efficiency

Control efficiency = 90.00%

3.3.2 ANNUAL Emission Rate Calculation

ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 32.88 lbs/hr

Annual Emission = 123.10 tons/yr

Annual Emission Rate After control

Using the above equation 1.3:

Emission rate = 3.29 lbs/hr

Annual Emission = 12.31 tons/yr

3.4 Hydrogen Sulfide Emission Calculation

3.4.1 HOURLY Emission Rate Calculation

Average Air sample result, taken before and after control.

Where:

Hydrogen Sulfide MW = 34.08

HOURLY Emission Rate Before control

Air sample concentration (ppmv) = 6.5 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 9.06 mg/m3

Emission rate = 5.091 lbs/hr

HOURLY Emission Rate After control

Air sample concentration (ppmv) = 0.52 ppmv

Using the above equation and conversion 1 and 2:

Concentration = 0.7 mg/m3

Emission rate = 0.407 lbs/hr

Control Efficiency

Control efficiency = 92.00%

3.4.2 ANNUAL emission calculation

ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 5.09 lbs/hr

Annual Emission = 19.06 tons/yr

Annual Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.41 lbs/hr

Annual Emission = 1.52 tons/yr

3.5 TSP & PM10 Emission calculation

3.5.1 TSP & PM10 HOURLY Emission Rate calculation PROCESS EQUIPMENT

Basis: Darling Newark 1995 Air Permit. Emission rate is for PTS1, PTS2 & PTS3 COMBINED.

TSP HOURLY Emission Rate Before control

Emission rate = 8.820 lbs/hr

TSP HOURLY Emission Rate After control

Emission rate = 0.441 lbs/hr

PM10 HOURLY Emission Rate Before control

Emission rate = 0.980 lbs/hr

PM10 HOURLY Emission Rate After control

Emission rate = 0.049 lbs/hr

Control Efficiency

Control efficiency = 95.00%

3.5.2 TSP & PM10 ANNUAL emission calculation PROCESS EQUIPMENT

TSP ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 8.820 lbs/hr

Annual Emission = 33.02 tons/yr

TSP ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.441 lbs/hr

Annual Emission = 1.65 tons/yr

PM10 ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 0.980 lbs/hr

Annual Emission = 3.67 tons/yr

PM10 ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.049 lbs/hr

Annual Emission = 0.18 tons/yr

3.5.3 TSP & PM10 HOURLY Emission Rate calculation SILOS

Emission rates are based on AP-42 Table 9.9.1-1 uncontrolled emissions.

TSP HOURLY Emission Rate Before control

Emission rate = 0.109 lbs/hr for two silos

TSP HOURLY Emission Rate After control

Emission rate = 0.005 lbs/hr for two silos

PM10 HOURLY Emission Rate Before control

Emission rate = 0.027 lbs/hr for two silos

PM10 HOURLY Emission Rate After control

Emission rate = 0.001 lbs/hr for two silos

Control Efficiency

Control efficiency = 95.00%

3.5.4 TSP & PM10 ANNUAL Emission Rate Calculation SILOS

TSP ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate =	0.109	lbs/hr	
Annual Emission =	0.406	tons/yr	for two silos

TSP ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate =	0.005	lbs/hr	
Annual Emission =	0.020	tons/yr	for two silos

PM10 ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate =	0.027	lbs/hr	
Annual Emission =	0.102	tons/yr	for two silos

PM10 ANNUAL Emission Rate After control

Using the above equation 1.3:

TSP ANNUAL Emission Rate Before control	0.001	lbs/hr	
Annual Emission =	0.005	tons/yr	for two silos

3.5.5 Total TSP & PM10 HOURLY Emission Rate calculation for Process Equipment & Silos

TSP Emission Rate Before control

Emission rate =	8.929	lbs/hr

PM10 Emission Rate Before control

Emission rate =	1.007	lbs/hr

TSP Emission rate After control

Emission rate =	0.446	lbs/hr

PM10 Emission rate After control

Emission rate =	0.050	lbs/hr

3.5.6 Total TSP & PM10 ANNUAL emission for Process Equipment & Silos

TSP Annual emission Before control

Using the above equation 1.3:

Emission rate =	8.93	lbs/hr
Annual Emission =	33.43	tons/yr

PM10 Annual emission Before control

Using the above equation 1.3:

Emission rate =	1.01	lbs/hr
Annual Emission =	3.77	tons/yr

TSP Annual emission After control

Using the above equation 1.3:

Emission rate =	0.45	lbs/hr
Annual Emission =	1.67	tons/yr

PM10 Annual emission After control

Using the above equation 1.3:

Emission rate =	0.05	lbs/hr
Annual Emission =	0.19	tons/yr

3.6 Emissions rate by source

3.6.1 High Intensity Sources

There are a total of 39 source venting to PTS1 & PTS2

There are a total of 12 source with particulate emission venting to PTS1 & PTS2

Emission unit U33	Equipment	VOC Emission rate		Ammonia Emission rate		H2S Emission rate		TSP Emission rate		PM10 Emission rate	
		Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)
OS4	Dewatering Press	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS5	Roto Shear	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS6	Evaporator feed tank	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS7	Centrifuge 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS8	Centrifuge 2	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS9	Centrifuge Mud	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS10	Sterilizer feed tank	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS11	Air cooled condenser 4	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS12	Dryer 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS13	Dryer 2	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS14	Evaporator heat exchanger	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS15	Air cooled condenser 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS16	Drainer screen	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS17	Screen conveyor	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS18	Centrifuge feed tank	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS19	Slurry holding tank	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS22	Auxiliary mill hopper	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS23	Shaker screen 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS24	Shaker screen 2	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS25	Shaker screen 3	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS26	Pre-Heater	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS32	Hammer mill	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS33	Bucket elevator 1 to Dryers	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS34	Bucket elevator 2 to CRAX	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS35	Dryer Conveyor system	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS36	CRAX Conveyor system	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS37	Shakers Conveyor system	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
OS38	Shakers Recirculate Conveyor	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
* OS39	Air cooled condenser East	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS40	Air cooled condenser West	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS42	Hydrolizer	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS43	Lowside Skimmer	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS44	Highside Skimmer	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
OS45	Sludge evaporator	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS47	Aspirator	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.7350	0.0368	0.0817	0.0041
* OS48	Cyclone 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS49	Cyclone 2	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	-----	-----	-----	-----
* OS50	Silo 1	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.0543	0.0027	0.0137	0.0007
* OS51	Silo 2	0.8431	0.0843	2.8699	0.0287	0.1305	0.0104	0.0543	0.0027	0.0137	0.0007

Note: * = modified or new source/equipment

3.6.2 The CRAX regrind hopper

The CRAX hopper only processes a fraction of the Silos meal product. For emission calculation purposes, it is assumed that 5% of the Silo production is processed and therefore the same percentage assumption is used for the CRAX hopper emission calculation.

	Hourly	VOC Emission rate	Ammonia Emission rate	H2S Emission rate	TSP Emission rate	PM10 Emission rate
OS21	CRAX hopper	0.0422	0.1435	0.0065	0.0027	0.0007

The CRAX regrind hopper operates approximately 8 times per year for 4 hours.

	Annual	VOC Emission	Ammonia Emission	H2S Emission	TSP Emission	PM10 Emission
OS21	CRAX hopper	0.0007	0.0023	0.0001	4.34E-05	1.09E-05

DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

4.0 Rendering Low Intensity sources

4.1 Conversion formulas and Concentration data

4.1.1 Conversion from ppmv to mg/m3

mg/m3 = ((ppm x MW) / 24.45) x [(P/Po)x(To/T)]

Where:	ppm	= parts per million by volume (INPUT)		
	MW	= Molecular weight		
	24.45	= Ideal gas law constant		
	P	= Observed pressure in atmospheres =	1	Atmospheres
	Po	= 1 atmosphere		
	T	= Observed temperature in degrees F =	77	Degrees F
	T	= (Degrees F + 459.67)/1.8		
	T	= 298.15 Degrees K		
	To	= 298.15 degrees K		

4.1.2 Conversion from mg/m3 to lb/hr

lb/hr = mg/m3 x (1 m3/35.314 ft3) x (1 g/1,000 mg) x (1 lb/453.59 g) x (ft3/min) x (60 min/hr)

Where: mg/m3 is an INPUT

1000	mg/g
35.314	ft3 /m3
453.59	g/lb
75000	ft3/min = designed volumetric flow rate
60	min/hr

4.1.3 Conversion from lb/hr to tons/year

tons/year = (lb/hr x hours/year) / 2000 lb/ton

where: lb/hr is an INPUT

7488	hours/year (24 hr/day x 6 day/wk x 52 wk/yr)
2000	lb/ton

4.1.4 Pollutant Concentration Assumptions

The low Intensity operations do not generate the same level of emissions as the High intensity operations. Low intensity emissions are generally at room temperature and exhibita lower odor profile. The following are the expected percentages of the High Intensity concentrations based upon observations and Darling's experience.

Ammonia =	27%	Low Intensity as a percent of High Intensity. Ammonia PTS-3 (Low Intensity) stack emissions were 27% of PTS-1 (High Intensity) emissions (Newark Stack Test May 1995).	
VOC =	1.963	mg/m3 (Stack test average result)	Newark Stack Test May 1995
Control Efficiency of VOC =	50%	Assumed previous air Permit Control efficiency.	
Hydrogen Sulfide =	0.05	ppmv (Stack test result was <0.05 ppm)	Newark Stack Test May 1995
Control Efficiency of Hydrogen sulfide =	25%	This is the estimated control efficiency during the 1995 stack test. The estimated control efficiency is considered to be low due to low inlet concentration of H2S. The low inlet H2S concentration is due to the emissions released and captured by PTS-3 from the area through room ventilation. Ammonia emissions are expected to predominate in low temperature general room air.	

4.1.5 Concentration Before Control

Ammonia =	77.22	ppmv	Basis: Enviromental Improvement Pilot Test (EIPT June 2020) and the percentage above (PTS-3 as a percentage of PTS-1 during 1995 stack test).
VOC =	3.93	mg/m3	Basis: 1995 stack test (see 4.1.4) and the assumed air pollution control efficiency for VOC at the time.
Hydrogen Sulfide =	0.067	ppmv	Basis: 1995 stack test (see 4.1.4) and the assumed negligible air pollution control efficiency for H2S at the time.

4.1.6 Calculated Concentration After Control

Ammonia =	0.772	ppmv	Basis: Enviromental Improvement Pilot Test (EIPT June 2020) and the percentage above (PTS-3 as a percentage of PTS-1 during 1995 stack test).
VOC =	2.94	mg/m3	Basis: 1995 stack test (see 4.1.4) and the expected air pollution control efficiency for VOC for PTS-3 operating at low pH.
Hydrogen Sulfide =	0.067	ppmv	Note: Since the inlet concentration is expected to be very low, it is assumed that the control efficiency is negligible for conservative purposes.
Total Particulate (Process Equipment) =	0.70	lbs/hr	Basis: Darling Newark facility 1995 Air Permit. Emission rate is for PTS1, PTS2 & PTS3 COMBINED.
Total Particulate (Process Equipment) =	30%	For PTS3 (Asumption of 30% emission rate)	
Total Particulate (Process Equipment) =	0.21	lbs/hr	Particulate matter emissions for stack PTS-3, based on 1995 air permit
TSP (Process Equipment) =	0.19	lbs/hr	Assumes that TSP is 90% of the total Particulate emission.
PM10 (Process Equipment) =	0.02	lbs/hr	Assumes that PM10 is 10% of the total Particulate emission.

4.1.7 Control Efficiencies

VOC removal effciency =	25%	Anticipated removal efficiency based upon the expected air pollution control efficiency for VOC for PTS-3 operating at low pH.
Ammonia removal effciency =	99%	Anticipated Air Pollution Control Efficiency based upon Darling experience for PTS-3 operating at low pH.
Hydrogen Sulfide removal effciency =	0%	Negligible removal efficiency of H2S is expected
TSP / PM10 (Process Equipment) =	95%	Basis: Anticipated air pollution control efficiency for particulates.

4.2 Ammonia Emission Rate Calculation

4.2.1 HOURLY Emission Rate Calculation

Based on an average Air sample result, taken before and after control.

Where:

Ammonia MW = 17.03

HOURLY Emission Rate Before control

Air sample concentration (ppmv) = 77.22 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 53.79 mg/m3

Emission rate = 15.110 lbs/hr

HOURLY Emission Rate After control

Air sample concentration (ppmv) = 0.7722 ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration = 0.5 mg/m3

Emission rate = 0.151 lbs/hr

Control Efficiency

Control efficiency = 99.00%

4.2.2 ANNUAL emission calculation

ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 15.11 lbs/hr

Annual Emission = 56.57 tons/yr

Annual Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.15 lbs/hr

Annual Emission = 0.57 tons/yr

4.3 VOC Emission calculation

4.3.1 VOC Truck Deodorizer Emissions (OS1 - Raw Material Pit Only)

Amount of Air Fair Cherry Deodorizer Used =	8	gal/month
Hours usage per month =	288	hours/month (12 hr/day x 6 day/week x 4 weeks/month)
Amount of Air Fair Cherry Deodorizer Used =	0.028	gal/hour (gal/month / hours/month)
Density of Air Fair Cherry Deodorizer =	8	lb/gal
Air Fair Cherry Deodorizer Percent VOC =	20%	
Air Fair Cherry Deodorizer Percent Emitted in Pit Area =	10%	
HOURLY Emissions BEFORE Control	0.005	lb/hour
HOURLY Emissions AFTER Control	0.003	lb/hour

4.3.2 HOURLY Emission rate calculation (Process)

Based on an average Air sample result, taken before and after control.

Where:

Isobutylene MW =	56.11	

HOURLY Emissions Before control (Process)

Concentration =	3.93	mg/m3
Emission rate =	1.103	lbs/hr

HOURLY Emissions After control (Process)

Using the above equation and conversion 1.1 and 1.2:

Concentration =	2.94	mg/m3
Emission rate =	0.827	lbs/hr

Control Efficiency

Control efficiency =	25.00%	

4.3.3 ANNUAL Emission Rate Calculation (Process + Truck Deodorizer)

ANNUAL emission Before control

Using the above equation 1.3:

Emission rate =	1.11	lbs/hr (Process + Truck Deodorizer)
Annual Emission =	4.15	tons/yr (Process + Truck Deodorizer)

ANNUAL emission After control

Using the above equation 1.3:

Emission rate =	0.83	lbs/hr (Process + Truck Deodorizer)
Annual Emission =	3.11	tons/yr (Process + Pit Deodorizer)

4.4 Hydrogen Sulfide Emission Rate Calculation

4.4.1 HOURLY Emission Rate Calculation

Based on an average Air sample result, taken before and after control.

Where:

Hydrogen Sulfide MW =	34.08	

HOURLY Emission Rate Before control

Air sample concentration (ppmv) =	0.067	ppmv

Using the above equation and conversion 1.1 and 1.2:

Concentration =	0.09	mg/m3
Emission rate =	0.026	lbs/hr

HOURLY Emission Rate After control

Air sample concentration (ppmv) = 0.067 ppmv

Using the above equation and conversion 1 and 2:

Concentration = 0.09 mg/m3

Emission rate = 0.026 lbs/hr

Control Efficiency

Control efficiency = 0.00%

4.4.2 ANNUAL Emission Rate Calculation

ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 0.03 lbs/hr

Annual Emission = 0.10 tons/yr

Annual Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.03 lbs/hr

Annual Emission = 0.10 tons/yr

4.5 TSP & PM10 Emission Rate Calculation

4.5.1 TSP & PM10 HOURLY Emission Rate calculation Process Equipment

Basis: Darling Newark facility 1995 Air Permit. Emission rate is for PTS1, PTS2 & PTS3 COMBINED.

TSP HOURLY Emission Rate Before control

Emission rate = 3.780 lbs/hr

TSP HOURLY Emission Rate After control

Emission rate = 0.189 lbs/hr

PM10 HOURLY Emission Rate Before control

Emission rate = 0.420 lbs/hr

PM10 HOURLY Emission Rate After control

Emission rate = 0.021 lbs/hr

Control Efficiency

Control efficiency = 95.00%

4.5.2 TSP & PM10 ANNUAL emission calculation Process Equipment

TSP ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 3.780 lbs/hr

Annual Emission = 14.152 tons/yr

TSP ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.189 lbs/hr

Annual Emission = 0.708 tons/yr

PM10 ANNUAL Emission Rate Before control

Using the above equation 1.3:

Emission rate = 0.420 lbs/hr

Annual Emission = 1.572 tons/yr

PM10 ANNUAL Emission Rate After control

Using the above equation 1.3:

Emission rate = 0.0210 lbs/hr

Annual Emission = 0.0786 tons/yr

4.6 Emissions Rates by Source

There are a total of 10 sources with AMMONIA, VOC and H2S venting to PTS3

There are a total of 4 sources with PARTICULATE emissions venting to PTS3

Emission unit U33	Equipment	VOC Emission rate		Ammonia Emission rate		H2S Emission rate		TSP Emission rate		PM10 Emission rate	
		Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)	Before control (lbs/hr)	After control (lbs/hr)
OS1	Raw Material Pit	0.1149	0.0861	1.5110	0.0151	0.0026	0.0026	3.7800	0.1890	0.4200	0.0210
OS2	Raw Material Grinder 1	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	3.7800	0.1890	0.4200	0.0210
OS3	Raw Material Grinder 2	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	3.7800	0.1890	0.4200	0.0210
OS20	Tank 26	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
OS27	Tank 27	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
OS28	Tank 34	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
OS29	Tank 35	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
* OS30	Centrifuge 3 Grease	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
* OS31	Centrifuge 4 Grease	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	-----	-----	-----	-----
OS41	Hydrolizer pit	0.1103	0.0827	1.5110	0.0151	0.0026	0.0026	3.7800	0.1890	0.4200	0.0210

Note: * = modified or new source/equipment

DARLING INGREDIENTS, INC
NEWARK, NJ

Emissions Calculation

5.0 Grease Process

5.1 Process description, data & assumptions

The raw grease is transported to the site in drums or tanker trucks. The drums are unloaded to the hot water tunnels and the tanker trucks unload to the pit. The grease drums get

Maximum amount of drums processed =	109	drums/hr (This number is based on Darling provided data of peak production 800,000 lbs/day in a 16hr shift per day)
Control efficiency =	95%	(similarly to the Rendering process)
Operating hours =	8760	hrs/yr

5.2 Grease VOC Emission Calculation

5.2.1 Heating VOC Emissions

Vapor Pressure @ ambient temperature :	0.001	mmHg (provided by Darling)
Molecular weight :	876	lb/lb-mole (provided by Darling)
Pre-Heater temperature :	215	F (provided by Darling)

Emissions occur due to heating of air saturated with VOCs. Emissions are calculated using the equations presented in the US EPA's OAQPS

Emission rate of raw material i :

$$\mathbf{Se_i = (n_s) \times MW_i \times (X_i)}$$

where:
- Se_i = VOC (i) vapor emitted in lbs
- n_s = number of lb-moles of all VOC vapor emitted
- X_i = mole fraction of VOC(i) in mixture
- MW_i = molecular weight of VOC(i) in lbs/lb-mole

5.2.1.1 Number of Moles Displaced (n_s) calculation

**Assuming each drum has a 5 gal head space: 5 gal

Using convers	7.48	gal/ft3			
Volume of free	0.668	ft3			
(Pa_1) Initial air	760.00	mm Hg			
(Pa_2) Final air	759.99	mm Hg			
(Ti) Initial Tem	70	F	=	294	K
(Tf) Final Tem	215	F	=	375	K
Volume of free space:	0.6684	ft^3			
(n_1 - n_2) Moles of air displaced:	3.71E-04	lb mole			
(n_s) moles of VOC displaced:	4.89E-09				

5.2.1.2 Heating calculation per drum

	From:			To:		
Temperature:	294	°K = °C	21	375	°K = °C	102
R :	999	(mm Hg x cft)/(lb-mole x *K)				

		WT. %	MWi lb/lb-mol	Xi	Pi @ 70 F mm Hg	*Pi @ 215 F mm Hg	Xi x Pi @ 70 F mm Hg	Xi x Pi @ 215 F mm Hg	Se i lb/drum	Se i lb/hr*
	Grease	100.00	876.00	1.00E+00	0.001	0.01	1.00E-03	1.00E-02	4.28E-06	4.67E-04
TOTAL		100.00		1.00E+00			1.00E-03	1.00E-02	4.28E-06	4.67E-04

Assume vapor pressure at 215F is 10x the vapor pressure at ambient temperature 10 times the VP @ ambient

* Se_i Hourly Rate is = lbs/drum x drum/hr

5.2.1.3 Heating hourly Emission rate

Emission rate before control = 4.67E-04 lbs/hr based upon 109 drums/hour

Emission rate after control = 2.33E-05 lbs/hr based upon 109 drums/hour

5.2.1.4 Heating annual emission

Total Annual emission rate = operating hours x hourly emission rate

Where:

Operating hours = 8760 hrs/yr

Total Annual emission before control = 4.09E+00 lbs/yr based upon 8760 hrs/yr

2.04E-03 tons/yr based upon 8760 hrs/yr

Total Annual emission after control = 2.04E-01 lbs/yr based upon 8760 hrs/yr

1.02E-04 tons/yr based upon 8760 hrs/yr

5.2.2 Displacement VOC emission

Emissions occur due to displacement of air saturated with VOC from Mix Tanks, conveyors, and other equipment during raw materials charging and filling. Emissions are calculated using the equations presented in the US EPA's OAQPS Guideline Series, "Control of Volatile Organic Emissions from the Manufacture of Synthesized Pharmaceutical Products" (USEPA, 1978).

Emission rate of raw material i :

$$\mathbf{Se_i = (P_i \times X_i \times MW_i \times V_r) / RT}$$

where:

Se_i = emission rate in lbs/hr

P_i = vapor pressure of VOC (i) in mm Hg at T*K

X_i = mole fraction of VOC (i) in mixture

MW_i = molecular weight of VOC (i) in lbs/lb-mole

V_r = rate of displacement in cft/hr

R =999 (mm Hg x cft)/(lb-mole x *K)

T = temperature, K

5.2.2.1 Rate of Displacement calculation

V_r = (Number of drum/hr x 55 gal/drum) / 7.48 gal/cft

Vr = [**5450.19** gal/hr] / [7.481 gal/cft] = **728.54** cft/hr

5.2.2.2 Displacement hourly emission calculation

		WT. %	MWi lb/lb-mol	Xi	Pi @ 70 F mm Hg	*Pi @ 215 F mm Hg	Xi x Pi @ 215 F mm Hg	Se i lb/hr
	Grease	100.00	876.00	1.00E+00	0.001	0.01	1.00E-02	1.70E-02
TOTAL		100.00		1.00E+00			1.00E-02	1.70E-02

Assume vapor pressure at 215F is 10 times the VP at ambient temperature.

5.2.2.3 Displacement Hourly Emission Rate

Emission rate before control = 1.70E-02 lbs/hr based upon 5450.19 gallons/hour
Emission rate after control = 8.52E-04 lbs/hr based upon 5450.19 gallons/hour

5.2.2.4 Displacement Annual Emission

Total Annual emission rate = operating hours x hourly emission rate
Where:
Operating hours = 8760 hrs/yr

Total Annual emission before control = 1.49E+02 lbs/yr based upon 8760 hrs/yr
7.47E-02 tons/yr based upon 8760 hrs/yr

Total Annual emission after control = 7.47E+00 lbs/yr based upon 8760 hrs/yr
3.73E-03 tons/yr based upon 8760 hrs/yr

5.3 Grease Annual and Hourly Emission rate by Source

It is assumed that each piece of equipment processes 5,450 gallons of grease per hour and that all equipment operates 8,760 hours per year.

		Emission	Uncontrolled VOC lbs/hr	Controlled VOC lbs/hr	Uncontrolled VOC tons/yr	Controlled VOC tons/yr
OS52	Screw Conveyer 1 to rendering	Displacement	0.0170	0.0009	0.0747	0.0037
OS53	Pre-heater	Displacement	0.0170	0.0009	0.0747	0.0037
		Heating	0.0005	0.00002	0.0020	0.0001
OS54	Hot Tunnel 1 (only half of the total drum	Displacement	0.0170	0.0009	0.0747	0.0037
	are loaded in each tunnel)	Heating	0.0005	0.00002	0.0020	0.0001
OS55	Hot Tunnel 2 (only half of the total drum	Displacement	0.0170	0.0009	0.0747	0.0037
	are loaded in each tunnel)	Heating	0.0005	0.00002	0.0020	0.0001
OS56	Grease rotary holding tank	Displacement	0.0170	0.0009	0.0747	0.0037
OS57	Tank 22	Displacement	0.0170	0.0009	0.0747	0.0037
OS58	Drum Washer	Displacement	0.0170	0.0009	0.0747	0.0037
OS59	Tank 23	Displacement	0.0170	0.0009	0.0747	0.0037
OS60	Tank 24	Displacement	0.0170	0.0009	0.0747	0.0037
OS61	Condenser 5	Displacement	0.0170	0.0009	0.0747	0.0037
OS62	Tank 29	Displacement	0.0170	0.0009	0.0747	0.0037
OS63	Tank 30	Displacement	0.0170	0.0009	0.0747	0.0037
OS64	Tank 33	Displacement	0.0170	0.0009	0.0747	0.0037
OS65	Screw Conveyer 2	Displacement	0.0170	0.0009	0.0747	0.0037
OS66	Hopper Pit	Displacement	0.0170	0.0009	0.0747	0.0037
OS67	Tank A	Displacement	0.0170	0.0009	0.0747	0.0037
OS68	Tank B	Displacement	0.0170	0.0009	0.0747	0.0037
OS69	Tank C	Displacement	0.0170	0.0009	0.0747	0.0037
OS70	DAF 1	Displacement	0.0170	0.0009	0.0747	0.0037
OS71	DAF tank	Displacement	0.0170	0.0009	0.0747	0.0037
OS72	DAF 2	Displacement	0.0170	0.0009	0.0747	0.0037
		TOTAL	3.59E-01	1.80E-02	1.574	0.079

NOTE: Grease house equipment is exisiting equipment being moved from PCP120002 to this application at the request of the NJDEP

APPENDIX B

RISK SCREENING WORKSHEET

NJDEP DIVISION OF AIR QUALITY RISK SCREENING WORKSHEET
For Long-Term Carcinogenic and Noncarcinogenic Effects and Short-Term Effects

June 2020

Read the Instructions tab carefully before completing this spreadsheet.

Date	
Facility ID No.	05576
Activity ID No.	PCP120003
Facility name	Darling Ingredients Inc.
Facility location	Newark NJ
File name (.xls)	

Emission Unit/Batch Process ID No.	U33	Stack height[1]	75.0	ft
Emission Point ID No.	PT3301 / PT3302	Distance to property line	150	ft
Equipment ID No(s).	E3305,3309,3314,331	**Annual air impact value, C'**	3.87936	**(ug/m^3)/(ton/yr)**
Operating Scenario(s)	OS05,OS09,OS14,OS1	**1-hour air impact value, C'$_{st}$**	289.7318	**(ug/m^3)/(lb/hr)**

KEY:

Long-Term Effects

- **Q =** Annual emission rate (in tons per year) contributed from the source
- **C =** C' x Q = Annual average ambient air concentration
- **URF =** Unit risk factor (for carcinogenic risk)
- **IR =** C x URF = Incremental risk (for carcinogen)
- **RfC =** Reference concentration (for noncarcinogenic effects)
- **HQ =** C/RfC = Hazard quotient (for noncarcinogenic risk)
- **Rslt =** The result of comparing the IR or HQ to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

Short-Term Effects

- **Q_h =** Hourly emission rate (in pounds per hour)
- **C_{st} =** C'_{st} x Q_h = Short-term average ambient air concentration
- **RfC_{st} =** Short-term reference concentration (for noncarcinogenic effects)
- **HQ_{st} =** C_{st}/RfC_{st} = Hazard quotient for short-term noncarcinogenic effects
- **Rslt =** The result of comparing the HQ_{st} to the negligible threshold (FER if > threshold, Negl. if <= threshold)
- **FER =** Further Evaluation Required (See Notes for thresholds)
- **Negl. =** Negligible (See Notes for thresholds)

[1] When evaluating risk for diesel engines, use the equivalent stack height consistent with the memo dated June 10, 2009.
Click here to view the "Stack Height Equivalents for Use in First Level Screening Analyses for Diesel Engines" memo.

				LONG-TERM EFFECTS								SHORT-TERM EFFECTS				
	H A P	CAS No.	Air Toxic	Q (ton/yr)	C (ug/m^3)	URF [(ug/m^3)$^{-1}$]	IR	Rslt	RfC (ug/m^3)	HQ	Rslt	Q_h (lb/hr)	C_{st} (ug/m^3)	RfC_{st} (ug/m^3)	HQ_{st}	Rslt
1	*	75070	Acetaldehyde			2.2E-06			9					470		
2	*	60355	Acetamide			2.0E-05										
3		67641	Acetone						31000					62000		
4		75865	Acetone cyanohydrin						2							
5	*	75058	Acetonitrile						60							
6	*	98862	Acetophenone						0.02							
7	*	53963	Acetylaminofluorene (2-)			1.3E-03										
8	*	107028	Acrolein						0.02					2.5		
9	*	79061	Acrylamide			1.0E-04			6							
10	*	79107	Acrylic acid						1					6000		
11	*	107131	Acrylonitrile			6.8E-05			2							
12		309002	Aldrin			4.9E-03										
13	*	107051	Allyl chloride			6.0E-06			1							
14		117793	Aminoanthraquinone (2-)			9.4E-06										
15	*	92671	Aminobiphenyl (4-)			6.0E-03										
16		7664417	Ammonia	1.3E+00	5.0E+00				100	**5.0E-02**	**Negl.**	3.5E-01	100.2214	3200	**3.1E-02**	**Negl.**
17	*	62533	Aniline			1.6E-06			1					3000		
18	*	90040	Anisidine (o-)			4.0E-05										
19	**	1309644	Antimony trioxide						0.2							
20		140578	Aramite			7.1E-06										
21	*		Arsenic (inorganic)			4.3E-03			0.015					0.2		
22	**	7784421	Arsine						0.05							
23	*	1332214	Asbestos			7.7E-03										
24		103333	Azobenzene			3.1E-05										
25			Barium											0.5		
26	*	71432	Benzene			7.8E-06			3					27		
27	*	92875	Benzidine			6.7E-02										
28	**	50328	Benzo(a)pyrene			6.0E-04			0.002							
29	*	98077	Benzotrichloride			3.7E-03										
30	*	100447	Benzyl chloride			4.9E-05								240		
31	*		Beryllium			2.4E-03			0.02							
32	*	92524	Biphenyl (1,1-)						0.4							
33		108601	Bis(2-chloroisopropyl)ether			1.0E-05										
34	*	117817	Bis(2-ethylhexyl)phthalate			2.4E-06										
35	*	542881	Bis(chloromethyl)ether			6.2E-02										
36		7440428	Boron (elemental)						20							
37		7637072	Boron trifluoride						0.7							
38		74975	Bromochloromethane						40							
39		75274	Bromodichloromethane			3.7E-05										
40	*	75252	Bromoform			1.1E-06										
41		106945	Bromopropane (1-)						101					5030		
42	*	106990	Butadiene (1,3-)			3.0E-05			2					660		
43	*		Cadmium			4.2E-03			0.02							
44		105602	Caprolactam						2.2					50		
45	*	133062	Captan			6.6E-07										
46	*	75150	Carbon disulfide						700					6200		
47	*	56235	Carbon tetrachloride			6.0E-06			40					1900		
48	*	463581	Carbonyl sulfide						10					660		
49	*	57749	Chlordane			1.0E-04			0.02							
50		108171262	Chlorinated paraffins			2.0E-05										
51	*	7782505	Chlorine						0.2					210		
52		10049044	Chlorine dioxide						0.2					28		
53		75683	Chloro-1,1-difluoroethane (1-) *(HCFC-142b)*						50000							
54	*	532274	Chloroacetophenone (2-)						0.03							
55	*	108907	Chlorobenzene						1000							
56	*	510156	Chlorobenzilate			3.1E-05										
57		75456	Chlorodifluoromethane *(HCFC-22)*						50000							
58	*	67663	Chloroform			2.3E-05			300					150		
59	*	107302	Chloromethyl methyl ether			6.9E-04										
60		95830	Chloro-o-phenylenediamine (4-)			4.6E-06										
61		95692	Chloro-o-toluidine (p-)			7.7E-05										
62		76062	Chloropicrin						0.4					29		
63	*	126998	Chloroprene			5.0E-04			20							
64		75296	Chloropropane (2-)						100							
65	**		Chromic acid mists (Cr VI)						0.008							
66	**	18540299	Chromium VI (total)			1.2E-02										
67	**		Chromium VI dissolved aerosols						0.008							
68	**		Chromium VI particulates						0.1							
69	*		Cobalt			9.0E-03			0.006							
70	*	8007452	Coke oven emissions			6.2E-04										
71			Copper											100		
72		120718	Cresidine (p-)			4.3E-05										
73	*		Cresol mixtures						600							
74		98828	Cumene						400							
75		135206	Cupferron			6.3E-05										
76		110827	Cyclohexane											6000		
77	*	72559	DDE			9.7E-05										
78		50293	DDT			9.7E-05										

79		615054	Diaminoanisole (2,4-)			6.6E-06										
80		124481	Dibromochloromethane			2.7E-05										
81	*	96128	Dibromo-3-chloropropane (1,2-)			2.0E-03			0.2							
82		764410	Dichloro-2-butene (1,4-)			4.2E-03										
83		95501	Dichlorobenzene (1,2-)						200							
84	*	106467	Dichlorobenzene (1,4-)			1.1E-05			800							
85	*	91941	Dichlorobenzidine (3,3'-)			3.4E-04										
86		75718	Dichlorodifluoromethane						100							
87	*	111444	Dichloroethyl ether			3.3E-04										
88	*	542756	Dichloropropene (1,3-)			4.0E-06			20							
89	*	62737	Dichlorvos			8.3E-05			0.5							
90		77736	Dicyclopentadiene						0.3							
91		60571	Dieldrin			4.6E-03										
92			Diesel particulate matter			3.0E-04			5							
93	*	111422	Diethanolamine						3							
94		112345	Diethylene glycol monobutyl ether						0.1							
95		75376	Difluoroethane (1,1-)						40000							
96	*	77781	Dimethyl sulfate			4.0E-03										
97	*	60117	Dimethylaminoazobenzene (4-)			1.3E-03										
98	*	79447	Dimethylcarbamyl chloride			3.7E-03										
99	*	68122	Dimethylformamide (N,N-)						30							
100	*	57147	Dimethylhydrazine (1,1-)						0.002							
101		540738	Dimethylhydrazine (1,2-)			1.6E-01										
102	*	121142	Dinitrotoluene (2,4-)			8.9E-05										
103	*	123911	Dioxane (1,4-)			5.0E-06			30					3000		
104	*		Dioxin	See footnote "a"												
105	*	122667	Diphenylhydrazine (1,2-)			2.2E-04										
106	*	106898	Epichlorohydrin			1.2E-06			1					1300		
107	*	106887	Epoxybutane (1,2-)						20							
108	*	140885	Ethyl acrylate						8							
109	*	100414	Ethylbenzene			2.5E-06								1000		
110	*	51796	Ethyl carbamate			2.9E-04										
111	*	75003	Ethyl chloride											10000		
112	*	106934	Ethylene dibromide			6.0E-04			0.8							
113	*	107062	Ethylene dichloride			2.6E-05			400							
114	*	107211	Ethylene glycol						400							
115		111762	Ethylene glycol monobutyl ether						82					4700		
116	**	110805	Ethylene glycol monoethyl ether						200					370		
117	**	111159	Ethylene glycol monoethyl ether acetate						300					140		
118	**	109864	Ethylene glycol monomethyl ether						20					93		
119	**	110496	Ethylene glycol monomethyl ether acetate						90							
120	*	75218	Ethylene oxide			5.0E-03			30					42		
121	*	96457	Ethylene thiourea			1.3E-05										
122	*	151564	Ethyleneimine			1.9E-02										
123	*	75343	Ethylidene dichloride			1.6E-06			500							
124		16984488	Fluoride						13							
125	*	50000	Formaldehyde			1.3E-05			9					55		
126		98011	Furfural						50							
127			Gasoline vapors			1.0E-06			15							
128		111308	Glutaraldehyde						0.08					4.1		
129		765344	Glycidaldehyde						1							
130	*	76448	Heptachlor			1.3E-03										
131		1024573	Heptachlor epoxide			2.6E-03										
132	*	118741	Hexachlorobenzene			4.6E-04										
133	*	87683	Hexachlorobutadiene			2.2E-05										
134	**	319846	Hexachlorocyclohexane (alpha-)			1.8E-03										
135	**	319857	Hexachlorocyclohexane (beta-)			5.3E-04										
136	*	58899	Hexachlorocyclohexane (gamma-)			3.1E-04										
137	**	608731	Hexachlorocyclohexane (technical grade)			5.1E-04										
138	*	77474	Hexachlorocyclopentadiene						0.2							
139		19408743	Hexachlorodibenzo-p-dioxin, mixture			1.3E+00										
140	*	67721	Hexachloroethane			1.1E-05			30							
141	*	822060	Hexamethylene diisocyanate						0.01							
142	*	110543	Hexane (N-)						700							
143	*	302012	Hydrazine			4.9E-03			0.2					10		
144		10034932	Hydrazine sulfate			4.9E-03										
145	*	7647010	Hydrogen chloride						20					2100		
146	**	74908	Hydrogen cyanide						0.8					340		
147	*	7664393	Hydrogen fluoride						14					240		
148	**	7783075	Hydrogen selenide											5		
149		7783064	Hydrogen sulfide	4.5E-01	1.7E+00				2	**8.7E-01**	**Negl.**	1.2E-01	13.917	98	**1.4E-01**	**Negl.**
150	*	78591	Isophorone						2000							
151		67630	Isopropanol											3200		
152	*		Lead			1.2E-05								0.1		
153	*	108316	Maleic anhydride						0.7							
154	*		Manganese						0.05					0.17		
155	*		Mercury (elemental)						0.3							
156	*	7439976	Mercury (inorganic)						0.03					0.6		
157		126987	Methacrylonitrile						0.7							
158	*	67561	Methanol						4000					28000		
159	*	74839	Methyl bromide						5					3900		
160	*	74873	Methyl chloride			1.8E-06			90							
161	*	71556	Methyl chloroform						1000					9000		
162		78933	Methyl ethyl ketone						5000					13000		
163	*	108101	Methyl isobutyl ketone											3000		
164	*	624839	Methyl isocyanate						1							
165	*	80626	Methyl methacrylate						700							
166		25013154	Methyl styrene (mixed isomers)						40							
167	*	1634044	Methyl tert butyl ether			2.6E-07			3000							
168		108872	Methylcyclohexane						3000							
169	*	101144	Methylene bis(2-chloroaniline) (4,4'-)			4.3E-04										
170	*	75092	Methylene chloride			1.3E-08			600					14000		
171	*	101779	Methylenedianiline (4,4-)			4.6E-04			20							
172	*	101688	Methylenediphenyl diisocyanate (4,4'-)						0.08					12		
173	*	60344	Methylhydrazine			1.0E-03			0.02							
174		90948	Michler's ketone			2.5E-04										
175	*		Mineral fibers (<1% free silica)						24							
176	*	91203	Naphthalene			3.4E-05			3							
177	*		Nickel and compounds			4.8E-04			0.014					0.2		
178	**	1313991	Nickel oxide						0.02							
179	**		Nickel refinery dust			2.4E-04										
180	**		Nickel, soluble salts						0.2							
181	**	12035722	Nickel subsulfide			4.8E-04										
182		7697372	Nitric acid											86		
183		88744	Nitroaniline (o-)						0.05							
184	*	98953	Nitrobenzene			4.0E-05			9							
185	*	79469	Nitropropane (2-)			2.7E-03			20							
186		55185	Nitrosodiethylamine (N-)			4.3E-02										
187	*	62759	Nitrosodimethylamine (N-)			1.4E-02										
188		924163	Nitrosodi-n-butylamine (N-)			1.6E-03										
189		621647	Nitrosodi-n-propylamine (N-)			2.0E-03										
190		86306	Nitrosodiphenylamine (N-)			2.6E-06										
191		156105	Nitrosodiphenylamine (p-)			6.3E-06										

192		10595956	Nitrosomethylethylamine (N-)			6.3E-03										
193	*	59892	Nitrosomorpholine (N-)			1.9E-03										
194		759739	Nitroso-n-ethylurea (N-)			7.7E-03										
195	*	684935	Nitroso-n-methylurea (N-)			3.4E-02										
196		100754	Nitrosopiperidine (N-)			2.7E-03										
197		930552	Nitrosopyrrolidine (N-)			6.1E-04										
198	*	87865	Pentachlorophenol			5.1E-06										
199	*	108952	Phenol						200					5800		
200	*	75445	Phosgene						0.3					4		
201	*	7803512	Phosphine						0.3					70		
202	*	7664382	Phosphoric acid						10							
203	*		Phosphorus (white)						0.07							
204	*	85449	Phthalic anhydride						20							
205	*	1336363	Polychlorinated biphenyls (PCBs)			1.0E-04										
206	*		Polycylic aromatic hydrocarbons (PAHs)	See footnote "b"												
207	*		Polycylic organic matter (POM)													
208		7758012	Potassium bromate			1.4E-04										
209	*	1120714	Propane sultone (1,3-)			6.9E-04										
210	*	57578	Propiolactone (beta-)			4.0E-03										
211	*	123386	Propionaldehyde						8							
212		115071	Propylene						3000							
213	*	78875	Propylene dichloride			1.0E-05			4							
214		107982	Propylene glycol monomethyl ether						2000							
215	*	75569	Propylene oxide			3.7E-06			30					3100		
216	**		Selenium and compounds						20							
217		7631869	Silica (crystalline, respirable)						3							
218		1310732	Sodium hydroxide											8		
219	*	100425	Styrene			5.7E-07			1000					21000		
220	*	96093	Styrene oxide			4.6E-05										
221			Sulfates											120		
222		7664939	Sulfuric acid						1					120		
223	*	1746016	Tetrachlorodibenzo(p)dioxin (2,3,7,8-)			3.8E+01			0.00004							
224		630206	Tetrachloroethane (1,1,1,2-)			7.4E-06										
225	*	79345	Tetrachloroethane (1,1,2,2-)			5.8E-05										
226	*	127184	Tetrachloroethylene			6.1E-06			40					20000		
227		811972	Tetrafluoroethane (1,1,1,2-)						80000							
228		109999	Tetrahydrofuran						2000							
229		62555	Thioacetamide			1.7E-03										
230	*	7550450	Titanium tetrachloride						0.1							
231	*	108883	Toluene						3760					7520		
232	*	584849	Toluene diisocyanate (2,4-)			1.1E-05			0.008					2		
233	*	26471625	Toluene diisocyanate (2,4-/2,6-)			1.1E-05			0.008					2		
234	*	91087	Toluene diisocyanate (2,6-)			1.1E-05			0.008					2		
235	*	95807	Toluene-2,4-diamine			1.1E-03										
236	*	95534	Toluidine (o-)			5.1E-05										
237	*	8001352	Toxaphene			3.2E-04										
238		76131	Trichloro-1,2,2-trifluoroethane (1,1,2-)						30000							
239	*	120821	Trichlorobenzene (1,2,4-)						2							
240	*	79005	Trichloroethane (1,1,2-)			1.6E-05										
241	*	79016	Trichloroethylene			4.8E-06			2					2		
242		75694	Trichlorofluoromethane						700							
243	*	88062	Trichlorophenol (2,4,6-)			3.1E-06										
244	*	121448	Triethylamine						7					2800		
245	*	1582098	Trifluralin			2.2E-06										
246		526738	Trimethylbenzene (1,2,3-)						60							
247		95636	Trimethylbenzene (1,2,4-)						60							
248		108678	Trimethylbenzene (1,3,5-)						60							
249		25551137	Trimethylbenzene (1,2,3-/1,2,4-/1,3,5-)						60							
250		7440622	Vanadium						0.1					0.8		
251		1314621	Vanadium pentoxide											30		
252	*	108054	Vinyl acetate						200							
253	*	593602	Vinyl bromide			3.2E-05			3							
254	*	75014	Vinyl chloride			8.8E-06			100					180000		
255	*	75354	Vinylidene chloride						200							
256	*		Xylene (m-,o-,p-, or mixed isomers)						100					22000		

If any calculated long-term or short-term effects for an air toxic result in "Further Evaluation Required" (FER) on this Risk Screening Worksheet, a Refined Risk Assessment is required for that air toxic.

NOTE:

* **Clean Air Act hazardous air pollutant**

** **Clean Air Act hazardous air pollutant, but not listed individually (part of a group)**

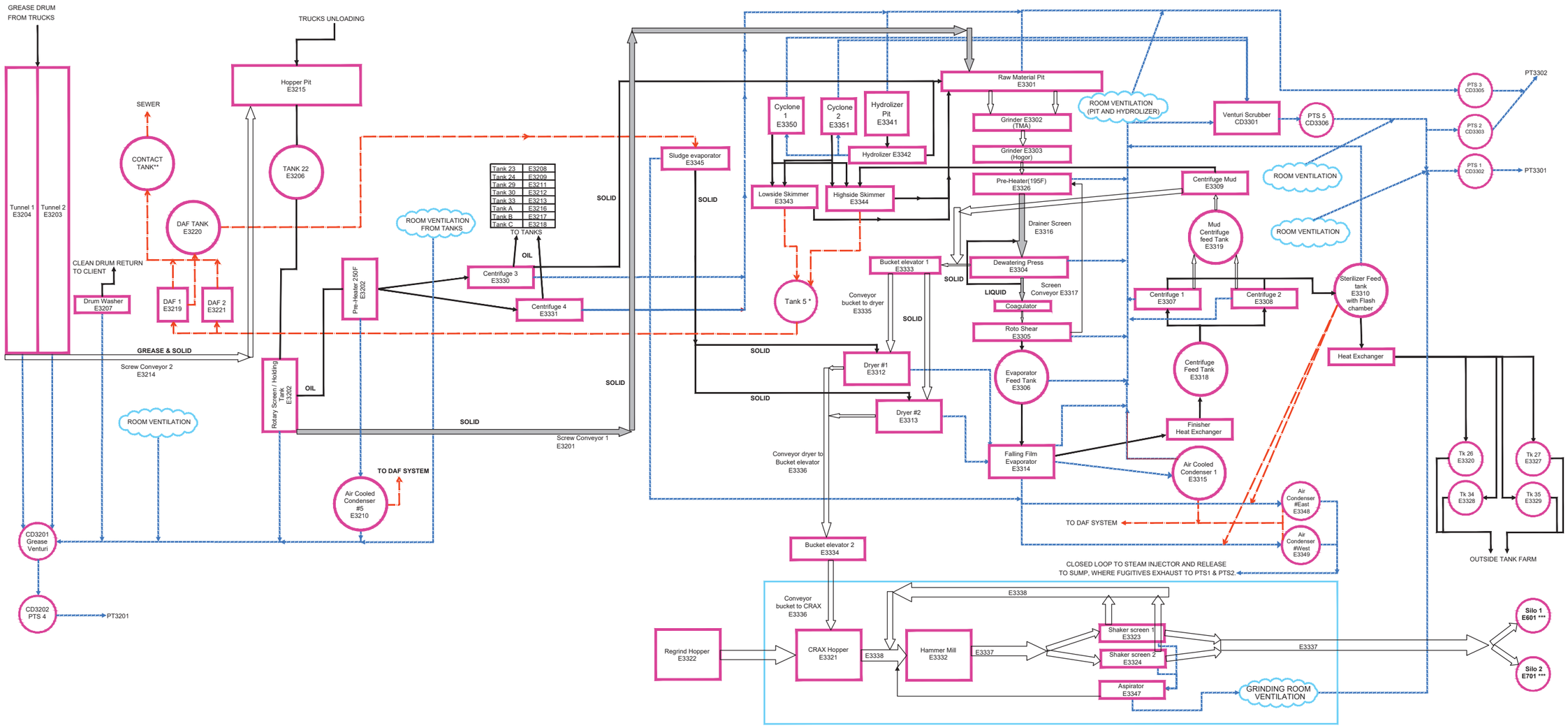
a Dioxins may be considered to be all 2,3,7,8-tetrachlorodibenzo(p)dioxin), or separated into congeners (contact AQEv).

b PAH or POM may be considered to be all benzo(a)pyrene, or separated into individual PAHs (contact AQEv).

The results are determined by comparing the long-term and short-term effects to the single-source thresholds, listed below.
The threshold value of negligible risk for incremental risk (IR) is 1 in a million (1.0E-06). An IR value less than or equal to 1 in million is considered negligible.
The threshold value of negligible risk for long-term hazard quotient (HQ) for non-carcinogenic risk is 1.0. An HQ less than or equal to 1.0 is considered negligible.
The threshold value of negligible risk for short-term hazard quotient (HQ_{st}) for non-carcinogenic risk is 1.0. An HQ_{st} less than or equal to 1.0 is considered negligible.

APPENDIX C

PROCESS FLOW DIAGRAM



NOTES:

* Tank 5 has de minimis emission levels.
** Contact Tank has de minimis emission levels (Water tank)
*** Silos stacks vent to the Room Ventilation in the Rendering PTS1.
Tanks 26, 27, 34 & 35 vent to PTS3
Coagulator and the heat exchangers are closed loop with no emissions.

LEGEND

- VAPOR / EMISSION LINE
- SCREENED CONVEYOR
- PRODUCTION LINE
- WASTEWATER LINE
- CONVEYOR

Aptim Environmental & Infrastructure, LLC
200 Horizon Center
Trenton, New Jersey 08691-1904

DARLING INTERNATIONAL
NEWARK, NJ

FIGURE 1
RENDERING & GREASE PROCESS FLOW CHART
PROJECT #631215700
NEWARK, NJ

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Trenton, NJ	7/17/20	--	A.Y.	M.H.	M.H.	631215700-B1.dwg

File: K:\Project\631215700 Darling International\631215700-B1.dwg
Plot Date/Time: Aug 28, 2020 - 9:14am
Plotted By: Andrius.Yanovicius
Xref :
Image :