INSTRUCTIONS

General

Pages 2 and 3 are data summaries and require no input. Input data in shaded fields on Pages 4 through 7, all other fields are calculated. It is suggested you read the form and determine what plant specific data you must gather prior to completing the form. To properly complete this form you will need (as a minimum) to collect the following data:

A). wastewater flow data from last year;
B). laboratory results for the waste treatment facility;
C). Amount of sludge from DAF (If any) and moisture content of sludge (If any)
D). Amount of sludge from Biological Treatment (If any), TKN-N, NH3-N, and NO3-N content of sludge.
E). Storm water monitoring results (if sampled);
F). Amount of ammonia purchased last year;
G). Amount of Chlorine used on site.

Mineral Acids

Mineral Acid such as Phosphoric Acid are otherwise used and have a threshold of 10,000 pounds. If these are discharged in wastewater and the pH of the wastewater is between 6 and 9, there is no discharge and the treatment system efficiency is 100%

Ammonia Volatilization Factors

The following factors are suggested for estimating the amount of NH3-N volatilized during spray application of wastewater and sludge

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Plant A
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TRI Reporting Applicability

Ammonia

Manufactured	18,227	lbs	NOT REPORTABLE
Processed	0	lbs	NOT REPORTABLE
Otherwise Used	7,000	lbs	NOT REPORTABLE

All ammonia in wastewater is considered coincidentially manufactured as a byproduct of the treatment of high protein wastewater. Ammonia used in refrigeration systems is considered otherwise used because it is not manufactured or processed on-site. No ammonia is processed on-site.

Nitrate Compounds

Manufactured	812,826	lbs	REPORTABLE
Processed	0	lbs	NOT REPORTABLE
Otherwise Used	0	lbs	NOT REPORTABLE

All nitrate compounds in wastewater are considered coincidintally manufactured as a byproduct of the treatment of high protein wastewater. Reporting thresholds based on nitrate compounds as NaNO3.

Chlorine

Manufactured	0	lbs	NOT REPORTABLE
Processed	0	lbs	NOT REPORTABLE
Otherwise Used	40,800	lbs	REPORTABLE

Chlorine is used as a chemical additive to wastewater for dininfection and is thus considered as otherwise used since it is not manufactured or processed. Chlorine in water is not released since the compound is immediately reacted. Only the fugitative releases due to valve and fitting leaks or the changeout of chlorine gas cyliners.

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TRI Releases

Ammonia		
Air	22,048	pounds
One Time Catastrophic Release to air	140	pounds
Water - wastewater effluent	316	pounds
Water - stormwater effluent	126	pounds
% Storm Water	39.9%	
Other	800	pounds
Nitrate Compounds		
Air	0	pounds
Water - wastewater effluent	79,491	pounds
Water - stormwater effluent	5,430	pounds
% Storm Water	6.8%	
Other	755	pounds
Chlorine		
Air	408	pounds
One Time Catastrophic Release	0	pounds
Water	0	pounds
% Storm Water	NA	
Other	NA	pounds

Other included sludges that are transferred off site or land applied on-site. If the material is disposed of on-site, additional computations must be made to determine the material applied to land and volatilized to the air.

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Anhydrous ammonia used for refrigeration system

Total Amount of Ammonia Purchased During the Calendar Year	12,000	pounds
Total Amount of Ammonia Purchase used for New System Addition	5,000	pounds
If there were recorded releases, enter the amount reported in incident investigations.	700	pounds
Was a water spray used to capture ammonia from these leaks? (If yes, put "yes" in box)	x	
Percent of Ammonia Captured by Water Spray	80.0%	

If your facility has a value for the amount captured, use this value. Otherwise a value of 80% is suggested

Wastewater Data

Annual Wastewater Flow: 312,500,000 gallons

	TKN - N (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)
System Inlet	100	15	0
DAF Influent (If you do not have treatment before DAF, copy System Inlet on this line	75	50	15
DAF Effluent (If you don't have a DAF, enter same value as DAF inlet)	50	40	15
Discharge or Land Application Holding (LAS) Pond	2	1	5

You must insert values for each entry. If you don't have data, the following are typical values.

	TKN - N (mg/l)	NH3-N (mg/l)	NO3-N (mg/l)
System Inlet	100	15	0
After DAF	50	15	0
Discharge/LAS Holding Pond (No Biological)	50	15	0
Discharge/LAS Holding Pond (Anaerobic Only)	0	50	0
Discharge/LAS Holding Pond (Aerobic)	3	1	5

These assume a 50% removal of TKN in DAF.
If aerobic biloogical treatment, all TKN converted to NH3-N to NO3-N to N2.

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Wastewater Threshold Computations			
Total TKN - N into biological system.	130,313	pounds	
Total nitrate manufactured between system inlet and biological inlet.	39,094	pounds	
Total NH3 - N coincidentially manufactured per year	150,103	pounds	
Total Aqueous Ammonia coincidentially manufactured per year	182,268	pounds	
Aqueous Ammonia Release Factor	10.0%		Per EPA Form R Reporting Gui
Total Aqueous Ammonia coincidentially manufactured for threshold	18,227	pounds	
Total NO3-N conicidentially manufactured per year	133,250	pounds	6.071428571
Total Nitrate Compounds conicidentially manufactured per year	812,826	pounds	Assume NaNO3 per EPA

Dissolved Air Flotation		
Do you have a dissolved air flotation (DAF) system? (Yes or No)	Yes	If NO, enter 0 in next two cells.
How much DAF sludge do you generate per year?	12,500,000	pounds
What is the moisture content of the sludge produced from ths systsm?	75.0%	
Total DAF Sludge generated per year	1,498,801	gallons
Ammonia Nitrogen contained in sludge	375	pounds
Ammonia in Sludge	455	pounds
Aqueous Ammonia Release Factor	10.0%	Per EPA Form R Reporting Guidance
Ammonia Nitrogen in Sludge for Threshold and Reporting	46	pounds

Sludge removed from DAF may be land applied or rendered on-site or transferred off-site for rendering, land application, or disposal.

Biological Treatment

How much biological sludge is wasted from the system each year?	9,048,000	gallons	
Aeration System			
Total Wastewater Into Aeration System	311,001,199	gallons	
Total TKN into Aeration System	129,688	pounds	
Percent Volatilized	10.0%	Unless you have another value, 10% is suggested	
Total Nitrogen Volatilized and Released	12,969	pounds	
Total Anhydrous Ammonia Released to Air	15,748	pounds	
Sludge Removed from Biological System			
Amount of Sludge Removed	75,460,320	pounds	
TKN Content of Sludge	250	mg/l	250 mg/l is suggested,
TKN Content of Sludge	18,865	pounds	unless other data available
NH3-N Content of Sludge	10	mg/l	10 mg/l is suggested,
NH3-N Content of Sludge	755	pounds	unless other data available
Aqueous Ammonia Content of Sludge	916	pounds	
NO3-N Content of Sludge	10	mg/l	10 img/l s suggested,
NO3-N Content of Sludge	755	pounds	unless other data available
Nitrate	4,603	pounds	
TON-N Content of Sludge	18,110	pounds	

Sludge removed from biological wastewater treatment systems may be land applied on-site or transferred off-site for treatment or disposal.

Wastewater Releases

NH3-N in wastewater effluent	2,606	pounds
Aqueous Ammonia in wastewater effluent	3,165	pounds
Aqueous Ammonia Release Factor	10.0%	Per EPA Form R Reporting Guidance
Aqueous Ammonia in released in wastewater effluent	316	pounds
NO3-N in wastewater effluent	13,031	pounds
Nitrate Compounds in wastewater effluent	79,491	pounds
TKN-N in wastewater effluent	5,213	pounds
TON-N in wastewater effluent	2,606	pounds

Storm Water

This
computati

The Form R guidance indicates that you should complete the percent storm water block only if you have a discharge to a receiving stream.
The Form R guidance indicates that you should put "NA" in the percent storm water block if you have no monitoring data.

Do you have NH3-N data for storm water? (Yes or No)	Yes	
Do you have NO3-N data for storm water? (Yes or No)	Yes	
Total Plant Area of industrial operations	58	Acre
Area Impervoius (paved or building)	14	Acre
Area Pervious	44	Acre
Impervious Runnoff Coefficient	0.70	EPA Form R Guidance
Pervious Runoff Coefficient	0.35	EPA Form R Guidance
Annual Rainfall	52	inches
NH3-N in storm water	3.5	mg/l
NH3-N in storm water	1,039	pounds
Aqueous Ammonia in storm water	1,261	pounds
Aqueous Ammonia Release Factor	10.0%	Per EPA Form R F Per EPA Form R Reporting Guidance
Aqueous Ammonia released in stormwater effluent	126	pounds
NO3-N in storm water	3	mg/l
NO3-N in storm water	890	pounds
Nitrate Compounds in storm water	5,430	pounds

Chlorine

Amount Purchased	40,800	
One Time Catastrophic Release		
% Fugitive Release	1.0%	A value between 0.5 and 1.0% is suggested

Emissions	408
Treatment Efficiency	99.0%