Shell Chemical Appalachia LLC
300 Frankfort Rd
Monaca, PA 15061

February 7, 2025

Alexander Sandy
Air Quality Engineering Specialist
Pennsylvania Department of Environmental Protection
Bureau of Air Quality - Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Re: Shell Chemical Appalachia LLC
Shell Polymers Monaca
Potter and Center Townships, Beaver County
Second Response to Plan Approval Application Technical Deficiency Letter

Dear Mr. Sandy:

On September 13, 2024, Shell Chemical Appalachia LLC ("Shell") submitted a plan approval application to the Pennsylvania Department of Environmental Protection (DEP) proposing the Wastewater Treatment Plant (WWTP) Permanent Controls Project and Ethylene Maximum Achievable Control Technology (EMACT) Project at Shell Polymers Monaca ("SPM"), as well as Plan Approval Reconciliations for SPM's current plan approval. On December 24, 2024, DEP provided Shell with a technical deficiency letter for the referenced plan approval application, which included itemized requests for additional information. Shell submitted an initial response to DEP's December 24, 2024 technical deficiency letter on January 23, 2025, to respond to Request Nos. 6-16 in the letter. Shell is submitting this second response to the December 24, 2024 technical deficiency letter to respond to Request No. 21 in the letter. As discussed, and agreed to by DEP, Shell will provide updates weekly to communicate the status of completed responses to the remaining requests. These weekly updates will also provide DEP with an updated schedule as the development of the responses progresses.

Below is Shell's response to Request No. 21 as it is presented in DEP's December 24, 2024 technical deficiency letter.

21. *Source ID 502: Wastewater Treatment Plant*

    a. *Provide a description of the assumptions made and all inputs used in the Toxchem model to estimate emissions from the WWTP at SPM;*

Response: Please see Attachment 1 herein for the inputs used in Toxchem to calculate the potential to emit rates proposed for the WWTP. Please note that the Toxchem wastewater composition and flow rate inputs provided in this response are

slightly different than the same inputs included in the September 13, 2024 plan approval application. The Toxchem wastewater composition inputs are different due to a more consistent application of the removal efficiency anticipated to be achieved by the new Steam Stripper for specific hydrocarbons and groups of hydrocarbons contained in the wastewater. Please see the response to Request No. 21.d for additional background on the derivation of the Toxchem wastewater composition inputs.

b. Identify each individual emission point from the WWTP and the PTE from each individual emission point;

Response: Please see Attachment 2 herein for the individual WWTP emission points and the potential to emit rates calculated for these individual emission points using Toxchem. Also, the referenced attachment includes the potential to emit rates proposed for the WWTP, which, by pollutant, represent the total of the potential to emit rates calculated for each individual emission point in the WWTP. Please note that there are minor differences between these potential to emit rates and the WWTP potential to emit rates included in the September 13, 2024 plan approval application based on minor changes to the Toxchem wastewater composition and flow rate inputs, as discussed in the response above.

c. Identify which emission point(s) are captured and routed to the SCTO for control;

Response: Please see below for the WWTP equipment that vent (and will vent) to a closed-vent system (CVS) that routes collected vent streams to the SCTO.

- Two Flow Equalization and Oil Removal (FEOR) Tanks
- Recovered Oil Storage Tank
- Settlement Drum *(proposed equipment that will vent to a CVS that will be routed to the SCTO)*
- Two Dissolved Nitrogen Flotation (DNF) Units *proposed equipment that will vent to a CVS that will be routed to the SCTO)*
- Float/Sludge Drum *(proposed equipment that will vent to a CVS that will be routed to the SCTO)*
- Steam Stripper and associated Reflux Drum *(proposed equipment that will vent to a CVS that will be routed to the SCTO)*

Also, two Induced Nitrogen Flotation Vessels that are temporarily being used in the WWTP, the Spent Caustic Storage Tank, and the Spent Caustic Oxidation Unit vent to a CVS that routes collected vent streams to the SCTO.

d. Provide the Biotreater Aeration Tanks' inlet concentrations based on actual sample data for the 1/10/23-3/31/24 time period, excluding ethylene manufacturing unit downtime or abnormal conditions, as indicated in Appendix B of the plan approval application;

Response: Please see Attachment 3 herein for the requested wastewater sample data, as well as a summary of the derivation of the Biotreater inlet stream hydrocarbon concentrations that were input into Toxchem to calculate the potential to emit rates proposed for the WWTP.

e. Justification of why dry weather flow is considered worst-case conditions for the modeled emissions;

Response: For wastewater systems that receive stormwater, the dry weather flow represents normal wastewater flow conditions without stormwater inflow. If stormwater inflow is accounted for in a wastewater system, then the stormwater results in the dilution of dry weather flow VOC concentrations, which generally results in lower VOC emissions estimates for a wastewater system. Thus, dry weather flow is considered worst-case for estimating emissions from a wastewater system that can receive stormwater.

f. Verify which version of Toxchem was used to estimate emissions from the WWTP at SPM;

Response: The WWTP's potential to emit was calculated using Version 4.4 of Toxchem.

g. Verify if emission estimates account for emissions associated with petrochemical-based oil layers;

Response: Toxchem can calculate emissions resulting from oil layers, but none of SPM's WWTP equipment included in the Toxchem model operate with an oil layer. As a result, the potential to emit rates proposed for the WWTP do not include emissions associated with an oil layer.

h. Provide a comparison of WWTP potential to emit using WATER9 vs. Toxchem;

Response: Shell does not have a WATER9 potential to emit calculation to compare against the Toxchem potential to emit calculation because WATER9 is not reliably functional on computers using newer Windows operating systems, and EPA is no longer providing updates to WATER9 or assistance to users experiencing model operating errors. Shell is using Toxchem, which is an EPA-approved alternative to WATER7/WATER8/WATER9, to calculate the WWTP's potential to emit rates. Like WATER9, Toxchem is a wastewater collection, storage, separation, and treatment system emissions estimation model that uses fundamental mass transfer equations and mass balances to perform wastewater emission calculations, and Toxchem was developed in the early 1990s as an alternative to WATER8/WATER9 to overcome some of the limitations of those models, including improved mass transfer processes, sorption of contaminants to solids, and a compound database containing critically reviewed physical, chemical, and biological properties. Toxchem is widely accepted by EPA and state agencies across the country as a tool to calculate wastewater collection, storage, separation, and treatment system actual and potential to emit rates, as well as being used as a tool to assist in determining compliance with wastewater equipment standards found in state and federal air quality regulations. In fact,

EPA specifically authorized Toxchem to be used to determine compliance with biological treatment unit standards applicable to certain stationary sources under 40 CFR Part 63 (59 Federal Register 19606).

i. *Identify the design capacity of the WWTP in gallons per year; and;*

Response: The design capacity of the WWTP is 250 m^3/hr.

j. *Identify the capacity of the settlement drum(s), two Dissolved Nitrogen Flotation (DNF) Units (DNF Unit #1 and DNF Unit #2), float/sludge drum, and Steam Stripper, including a reflux drum.*

Response: Please see the table below for the requested equipment capacities.

WWTP Equipment	Design Capacity/Size
Settlement Drum	690 m^3 working volume
DNF Unit #1	250 m^3/hr
DNF Unit #2	250 m^3/hr
Float/Sludge Drum	13.8 m^3 working volume
Steam Stripper	26.8 m^3
Steam Stripper Reflux Drum	0.64 m^3

If you have any questions regarding this second response to the December 24, 2024 technical deficiency letter, please contact Kimberly Kaal at kimberly.kaal@shell.com.

Sincerely,

Kimberly Kaal

Kimberly Kaal
SPM Environmental Manager

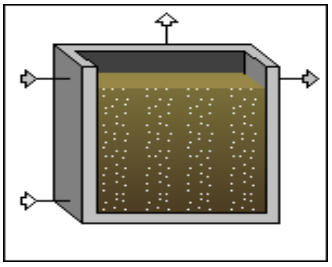
CC: Mark Gorog, PADEP Air Quality Program Regional Manager
Sheri Guerrieri, PADEP Environmental Group Manager (New Source Review)
Tom Joseph, PADEP Environmental Group Manager (Permits)
Brad Spayd, PADEP Air Quality Engineering Specialist
Andrew Fleck, Air Quality Modeling and Risk Assessment Section Environmental Group Manager
Martin Padilla, SPM HSSE Manager
Alan Binder, Shell Sr. Environmental Engineer - Air Quality
Laura Sabolyk, Senior Regulatory Advisor
Michael Carbon, Landau Associates Senior Principal

Enclosures

Attachment 1

Request No. 21.a Information

WWTP - Biotreater Aeration Tank A



Input Parameters

Data Entry		
Liquid Depth	6.1	m
Surface Area	344.24	m2
Number of CSTRs	1	
SRT	31	d
MLSS	3300	mg/L
VSS to SS Ratio	53	%
Dissolved Oxygen	2	mg/L
Process Air Flow Rate	3891	cuft/min
Oxygen Transfer Efficiency	7	%
Mole Fraction of Oxygen in Gas Source	0.209	O2/Air
Removal Efficiency - Wastewater DOC	0	%
Covered	false	
Ventilation Rate	-	
Local pH value	-	
Advanced		
Kg/Kl Ratio for Diffused System	3	

Output Data

Contaminant : Benzene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	1050.04	3.8803
Organic Chemical - Cl (ug/L)	343.331	1.32001
Organic Chemical - Ct (ug/L)	347.217	3.18201
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.988806	0.414834
Fraction of Sorbed Chemical - Organic Solid (-)	0.00822017	0.585166
Fraction of Sorbed Chemical - Oil (-)	0.00297345	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	7.9993	45.5402
Organic Chemical - Cl (ug/L)	1.33263	-
Organic Chemical - Ct (ug/L)	1.88503	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.706957	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.293043	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr
Mass Transfer Coefficient for Diffused Aeration	4.126	m/hr
Biodegradation Rate in First Order Kinetics	14.8955	1/hr

Contaminant : Phenol

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	45.0015	0.0619006
Organic Chemical - Cl (ug/L)	14.8207	0.0321816
Organic Chemical - Ct (ug/L)	14.8806	0.0507611
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.995971	0.633981
Fraction of Sorbed Chemical - Organic Solid (-)	0.00338875	0.366019
Fraction of Sorbed Chemical - Oil (-)	0.000640319	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.159869	0.000468739
Organic Chemical - Cl (ug/L)	0.0322087	-
Organic Chemical - Ct (ug/L)	0.0376731	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.854954	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.145046	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00101103	m/hr
Biodegradation Rate in First Order Kinetics	27.663	1/hr

Contaminant : Toluene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	1497.11	17.8203
Organic Chemical - Cl (ug/L)	480.876	3.52253
Organic Chemical - Ct (ug/L)	495.05	14.6134
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.97137	0.241048
Fraction of Sorbed Chemical - Organic Solid (-)	0.0180244	0.758952
Fraction of Sorbed Chemical - Oil (-)	0.0106056	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	28.9742	139.607
Organic Chemical - Cl (ug/L)	3.54647	-
Organic Chemical - Ct (ug/L)	6.82775	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.519421	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.480579	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr
Mass Transfer Coefficient for Diffused Aeration	4.75478	m/hr
Biodegradation Rate in First Order Kinetics	7.53286	1/hr

Contaminant : Ethylbenzene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	132.007	1.2719
Organic Chemical - Cl (ug/L)	41.0249	0.160034
Organic Chemical - Ct (ug/L)	43.6507	1.04301
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.939846	0.153435
Fraction of Sorbed Chemical - Organic Solid (-)	0.0305603	0.846565
Fraction of Sorbed Chemical - Oil (-)	0.0295942	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.78886	7.32158
Organic Chemical - Cl (ug/L)	0.160813	-
Organic Chemical - Ct (ug/L)	0.421542	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.381487	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.618513	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr
Mass Transfer Coefficient for Diffused Aeration	5.50107	m/hr
Biodegradation Rate in First Order Kinetics	15.3211	1/hr

Contaminant : Xylene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	144.022	4.99524
Organic Chemical - Cl (ug/L)	44.759	0.628615
Organic Chemical - Ct (ug/L)	47.6236	4.0963
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.939851	0.153459
Fraction of Sorbed Chemical - Organic Solid (-)	0.0305548	0.846541
Fraction of Sorbed Chemical - Oil (-)	0.0295943	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	7.02685	20.0388
Organic Chemical - Cl (ug/L)	0.631764	-
Organic Chemical - Ct (ug/L)	1.65587	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.38153	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.61847	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr
Mass Transfer Coefficient for Diffused Aeration	3.82924	m/hr
Biodegradation Rate in First Order Kinetics	3.83027	1/hr

Contaminant : Styrene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	261.238	52.8189
Organic Chemical - Cl (ug/L)	81.7152	8.28836
Organic Chemical - Ct (ug/L)	86.3833	43.3137
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.945961	0.191356
Fraction of Sorbed Chemical - Organic Solid (-)	0.0235588	0.808644
Fraction of Sorbed Chemical - Oil (-)	0.0304805	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	79.3012	136.421
Organic Chemical - Cl (ug/L)	8.33585	-
Organic Chemical - Ct (ug/L)	18.6872	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.446072	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.553928	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr
Mass Transfer Coefficient for Diffused Aeration	1.9711	m/hr
Biodegradation Rate in First Order Kinetics	0.234072	1/hr

Contaminant : Naphthalene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	159.014	3.26565
Organic Chemical - Cl (ug/L)	48.1559	0.346633
Organic Chemical - Ct (ug/L)	52.5811	2.67797
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.915839	0.129439
Fraction of Sorbed Chemical - Organic Solid (-)	0.036301	0.870561
Fraction of Sorbed Chemical - Oil (-)	0.0478596	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	4.39666	1.09636
Organic Chemical - Cl (ug/L)	0.348098	-
Organic Chemical - Ct (ug/L)	1.03607	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.33598	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.66402	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.371657	m/hr
Biodegradation Rate in First Order Kinetics	8.93729	1/hr

Contaminant : Dibutylphthalate

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.46
Total Suspended Solids (mg/L)	48.9871	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716047	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0532	28.0645
Organic Chemical - Cl (ug/L)	1.97356	0.266852
Organic Chemical - Ct (ug/L)	9.93767	23.0139
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.198593	0.0115952
Fraction of Sorbed Chemical - Organic Solid (-)	0.0997673	0.988405
Fraction of Sorbed Chemical - Oil (-)	0.701639	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.63	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	29.4985	0.00078138
Organic Chemical - Cl (ug/L)	0.266853	-
Organic Chemical - Ct (ug/L)	6.95125	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0383892	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.961611	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.000226637	m/hr
Biodegradation Rate in First Order Kinetics	2.12793	1/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	0.360142	0.0176154
Organic Chemical - Cl (ug/L)	0.118047	0.00674146
Organic Chemical - Ct (ug/L)	0.119088	0.0144454
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.991262	0.466687
Fraction of Sorbed Chemical - Organic Solid (-)	0.00667591	0.533313
Fraction of Sorbed Chemical - Oil (-)	0.00206223	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0386096	0.179915
Organic Chemical - Cl (ug/L)	0.0068111	-
Organic Chemical - Ct (ug/L)	0.00909832	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.748611	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.251389	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr
Mass Transfer Coefficient for Diffused Aeration	3.18676	m/hr
Biodegradation Rate in First Order Kinetics	0.463888	1/hr

Contaminant : Acenaphthene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0058	2.04163
Organic Chemical - Cl (ug/L)	7.77423	0.101991
Organic Chemical - Ct (ug/L)	9.92199	1.67422
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.783536	0.0609183
Fraction of Sorbed Chemical - Organic Solid (-)	0.0711835	0.939082
Fraction of Sorbed Chemical - Oil (-)	0.145281	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.39849	0.164248
Organic Chemical - Cl (ug/L)	0.102208	-
Organic Chemical - Ct (ug/L)	0.565201	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.180835	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.819165	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.185558	m/hr
Biodegradation Rate in First Order Kinetics	5.72412	1/hr

Contaminant : Acenaphthylene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0065	2.46949
Organic Chemical - Cl (ug/L)	7.22615	0.101929
Organic Chemical - Ct (ug/L)	9.92224	2.02508
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.728278	0.0503334
Fraction of Sorbed Chemical - Organic Solid (-)	0.0809799	0.949667
Fraction of Sorbed Chemical - Oil (-)	0.190742	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.83523	0.0803054
Organic Chemical - Cl (ug/L)	0.102091	-
Organic Chemical - Ct (ug/L)	0.668118	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.152804	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.847196	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0873048	m/hr
Biodegradation Rate in First Order Kinetics	5.7454	1/hr

Contaminant : Fluorene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0056	2.19744
Organic Chemical - Cl (ug/L)	6.76741	0.0788845
Organic Chemical - Ct (ug/L)	9.92194	1.802
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.682065	0.0437762
Fraction of Sorbed Chemical - Organic Solid (-)	0.0878037	0.956224
Fraction of Sorbed Chemical - Oil (-)	0.230131	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.48711	0.0641178
Organic Chemical - Cl (ug/L)	0.0789995	-
Organic Chemical - Ct (ug/L)	0.586084	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.134792	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.865208	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0900117	m/hr
Biodegradation Rate in First Order Kinetics	7.44774	1/hr

Contaminant : Anthracene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0112	4.97851
Organic Chemical - Cl (ug/L)	5.47435	0.126369
Organic Chemical - Ct (ug/L)	9.92378	4.08259
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.551639	0.030953
Fraction of Sorbed Chemical - Organic Solid (-)	0.10178	0.969047
Fraction of Sorbed Chemical - Oil (-)	0.346581	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	5.47519	0.0773934
Organic Chemical - Cl (ug/L)	0.126496	-
Organic Chemical - Ct (ug/L)	1.29022	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0980417	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.901958	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0662589	m/hr
Biodegradation Rate in First Order Kinetics	4.6176	1/hr

Contaminant : Phenanthrene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.9867	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0112	4.98252
Organic Chemical - Cl (ug/L)	5.42323	0.12486
Organic Chemical - Ct (ug/L)	9.9238	4.08587
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.546487	0.030559
Fraction of Sorbed Chemical - Organic Solid (-)	0.102171	0.969441
Fraction of Sorbed Chemical - Oil (-)	0.351342	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.6	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	5.47371	0.0378516
Organic Chemical - Cl (ug/L)	0.124962	-
Organic Chemical - Ct (ug/L)	1.28987	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0968789	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.903121	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0302776	m/hr
Biodegradation Rate in First Order Kinetics	4.68144	1/hr

Contaminant : Fluoranthene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.46
Total Suspended Solids (mg/L)	48.9871	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716047	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0418	22.4466
Organic Chemical - Cl (ug/L)	1.56138	0.180139
Organic Chemical - Ct (ug/L)	9.93389	18.407
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.157177	0.00978643
Fraction of Sorbed Chemical - Organic Solid (-)	0.0937262	0.990214
Fraction of Sorbed Chemical - Oil (-)	0.749097	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.63	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	23.496	0.0110012
Organic Chemical - Cl (ug/L)	0.180158	-
Organic Chemical - Ct (ug/L)	5.53678	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0325383	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.967462	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00499539	m/hr
Biodegradation Rate in First Order Kinetics	3.19189	1/hr

Contaminant : Pyrene

Incoming Stream	**Combined_eff to BIO-A**	**RAS-A**
Flow Rate (m3/d)	3024.17	1219.45
Total Suspended Solids (mg/L)	48.987	11230
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716048	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0261	13.6545
Organic Chemical - Cl (ug/L)	2.04162	0.133307
Organic Chemical - Ct (ug/L)	9.92871	11.1972
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.205628	0.0119054
Fraction of Sorbed Chemical - Organic Solid (-)	0.100578	0.988095
Fraction of Sorbed Chemical - Oil (-)	0.693794	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOA_eff**	**BIOA_air**
Flow Rate (m3/d)	4243.62	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	14.364	0.00649814
Organic Chemical - Cl (ug/L)	0.133321	-
Organic Chemical - Ct (ug/L)	3.38484	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0393875	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.960612	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00390775	m/hr
Biodegradation Rate in First Order Kinetics	4.36225	1/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	2.16855	%
Contribution from Surface Volatilization	0.00539709	%
Contribution from Diffused Aeration	2.16315	%
Biodegradation	47.6366	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	45.5402	g/d
Contribution from Surface Volatilization	0.113341	g/d
Contribution from Diffused Aeration	45.4269	g/d
Biodegradation	1000.39	g/d

Contaminant : Phenol

Total Air Emissions	0.000520812	%
Contribution from Surface Volatilization	0.000222274	%
Contribution from Diffused Aeration	0.000298538	%
Biodegradation	49.8915	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000468739	g/d
Contribution from Surface Volatilization	0.00020005	g/d
Contribution from Diffused Aeration	0.000268689	g/d
Biodegradation	44.9031	g/d

Contaminant : Toluene

Total Air Emissions	4.66283	%
Contribution from Surface Volatilization	0.00974401	%
Contribution from Diffused Aeration	4.65308	%
Biodegradation	44.9676	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	139.607	g/d
Contribution from Surface Volatilization	0.29174	g/d
Contribution from Diffused Aeration	139.316	g/d
Biodegradation	1346.35	g/d

Contaminant : Ethylbenzene

Total Air Emissions	2.77328	%
Contribution from Surface Volatilization	0.00488135	%
Contribution from Diffused Aeration	2.7684	%
Biodegradation	47.0328	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	7.32158	g/d
Contribution from Surface Volatilization	0.012887	g/d
Contribution from Diffused Aeration	7.30869	g/d
Biodegradation	124.169	g/d

Contaminant : Xylene

Total Air Emissions	6.9578	%
Contribution from Surface Volatilization	0.0181053	%
Contribution from Diffused Aeration	6.93969	%
Biodegradation	42.3435	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	20.0388	g/d
Contribution from Surface Volatilization	0.052144	g/d
Contribution from Diffused Aeration	19.9866	g/d
Biodegradation	121.951	g/d

Contaminant : Styrene

Total Air Emissions	26.1338	%
Contribution from Surface Volatilization	0.128949	%
Contribution from Diffused Aeration	26.0049	%
Biodegradation	18.8375	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	136.421	g/d
Contribution from Surface Volatilization	0.673124	g/d
Contribution from Diffused Aeration	135.748	g/d
Biodegradation	98.3335	g/d

Contaminant : Naphthalene

Total Air Emissions	0.344762	%
Contribution from Surface Volatilization	0.00865149	%
Contribution from Diffused Aeration	0.33611	%
Biodegradation	49.3032	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.09636	g/d
Contribution from Surface Volatilization	0.0275122	g/d
Contribution from Diffused Aeration	1.06885	g/d
Biodegradation	156.787	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.00130228	%
Contribution from Surface Volatilization	0.000469523	%
Contribution from Diffused Aeration	0.000832756	%
Biodegradation	47.695	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00078138	g/d
Contribution from Surface Volatilization	0.000281719	g/d
Contribution from Diffused Aeration	0.000499661	g/d
Biodegradation	28.6175	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	24.9878	%
Contribution from Surface Volatilization	0.082046	%
Contribution from Diffused Aeration	24.9057	%
Biodegradation	22.1153	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.179915	g/d
Contribution from Surface Volatilization	0.000590741	g/d
Contribution from Diffused Aeration	0.179324	g/d
Biodegradation	0.159233	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.273743	%
Contribution from Surface Volatilization	0.0125998	%
Contribution from Diffused Aeration	0.261143	%
Biodegradation	49.1403	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.164248	g/d
Contribution from Surface Volatilization	0.00755999	g/d
Contribution from Diffused Aeration	0.156688	g/d
Biodegradation	29.4846	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.13384	%
Contribution from Surface Volatilization	0.011113	%
Contribution from Diffused Aeration	0.122727	%
Biodegradation	49.2666	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0803054	g/d
Contribution from Surface Volatilization	0.00666792	g/d
Contribution from Diffused Aeration	0.0736375	g/d
Biodegradation	29.5604	g/d

Contaminant : Fluorene

Total Air Emissions	0.106861	%
Contribution from Surface Volatilization	0.00894887	%
Contribution from Diffused Aeration	0.0979125	%
Biodegradation	49.4189	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0641178	g/d
Contribution from Surface Volatilization	0.00536941	g/d
Contribution from Diffused Aeration	0.0587484	g/d
Biodegradation	29.6518	g/d

Contaminant : Anthracene

Total Air Emissions	0.128987	%
Contribution from Surface Volatilization	0.0135794	%
Contribution from Diffused Aeration	0.115408	%
Biodegradation	49.0609	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0773934	g/d
Contribution from Surface Volatilization	0.00814775	g/d
Contribution from Diffused Aeration	0.0692456	g/d
Biodegradation	29.437	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.0630849	%
Contribution from Surface Volatilization	0.010988	%
Contribution from Diffused Aeration	0.052097	%
Biodegradation	49.136	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0378516	g/d
Contribution from Surface Volatilization	0.00659289	g/d
Contribution from Diffused Aeration	0.0312587	g/d
Biodegradation	29.4821	g/d

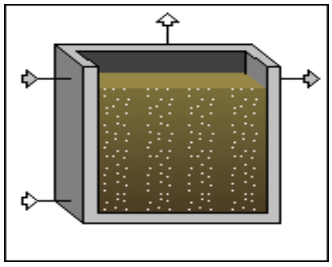
Contaminant : Fluoranthene

Total Air Emissions	0.018335	%
Contribution from Surface Volatilization	0.00594316	%
Contribution from Diffused Aeration	0.0123919	%
Biodegradation	48.2997	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0110012	g/d
Contribution from Surface Volatilization	0.00356595	g/d
Contribution from Diffused Aeration	0.00743524	g/d
Biodegradation	28.9803	g/d

Contaminant : Pyrene

Total Air Emissions	0.0108301	%
Contribution from Surface Volatilization	0.00365644	%
Contribution from Diffused Aeration	0.00717362	%
Biodegradation	48.8485	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00649814	g/d
Contribution from Surface Volatilization	0.0021939	g/d
Contribution from Diffused Aeration	0.00430424	g/d
Biodegradation	29.3096	g/d

WWTP - Biotreater Aeration Tank B



Input Parameters

Data Entry

Liquid Depth	6.1	m
Surface Area	344.24	m2
Number of CSTRs	1	
SRT	31	d
MLSS	3300	mg/L
VSS to SS Ratio	53	%
Dissolved Oxygen	2	mg/L
Process Air Flow Rate	3891	cuft/min
Oxygen Transfer Efficiency	7	%
Mole Fraction of Oxygen in Gas Source	0.209	O2/Air
Removal Efficiency - Wastewater DOC	0	%
Covered	false	
Ventilation Rate	-	
Local pH value	-	

Advanced

Kg/Kl Ratio for Diffused System	3	

Output Data

Contaminant : Benzene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	1050.04	3.57505
Organic Chemical - Cl (ug/L)	343.331	1.31951
Organic Chemical - Ct (ug/L)	347.217	3.38633
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.988806	0.389657
Fraction of Sorbed Chemical - Organic Solid (-)	0.00822017	0.610343
Fraction of Sorbed Chemical - Oil (-)	0.00297345	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	7.69073	45.5403
Organic Chemical - Cl (ug/L)	1.33264	-
Organic Chemical - Ct (ug/L)	1.88503	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.706957	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.293043	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr
Mass Transfer Coefficient for Diffused Aeration	4.126	m/hr
Biodegradation Rate in First Order Kinetics	14.8955	1/hr

Contaminant : Phenol

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	45.0015	0.0557539
Organic Chemical - Cl (ug/L)	14.8207	0.0321805
Organic Chemical - Ct (ug/L)	14.8806	0.0528108
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.995971	0.609354
Fraction of Sorbed Chemical - Organic Solid (-)	0.00338875	0.390646
Fraction of Sorbed Chemical - Oil (-)	0.000640319	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.153702	0.000468739
Organic Chemical - Cl (ug/L)	0.0322088	-
Organic Chemical - Ct (ug/L)	0.0376731	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.854954	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.145046	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00101103	m/hr
Biodegradation Rate in First Order Kinetics	27.663	1/hr

Contaminant : Toluene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	1497.11	16.7163
Organic Chemical - Cl (ug/L)	480.876	3.52161
Organic Chemical - Ct (ug/L)	495.05	15.8339
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.97137	0.222409
Fraction of Sorbed Chemical - Organic Solid (-)	0.0180244	0.777591
Fraction of Sorbed Chemical - Oil (-)	0.0106056	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	27.8567	139.609
Organic Chemical - Cl (ug/L)	3.54651	-
Organic Chemical - Ct (ug/L)	6.82781	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.519421	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.480579	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr
Mass Transfer Coefficient for Diffused Aeration	4.75478	m/hr
Biodegradation Rate in First Order Kinetics	7.53286	1/hr

Contaminant : Ethylbenzene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	132.007	1.20384
Organic Chemical - Cl (ug/L)	41.0249	0.160004
Organic Chemical - Ct (ug/L)	43.6507	1.14029
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.939846	0.140319
Fraction of Sorbed Chemical - Organic Solid (-)	0.0305603	0.859681
Fraction of Sorbed Chemical - Oil (-)	0.0295942	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.71986	7.32163
Organic Chemical - Cl (ug/L)	0.160814	-
Organic Chemical - Ct (ug/L)	0.421545	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.381487	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.618513	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr
Mass Transfer Coefficient for Diffused Aeration	5.50107	m/hr
Biodegradation Rate in First Order Kinetics	15.3211	1/hr

Contaminant : Xylene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	144.022	4.728
Organic Chemical - Cl (ug/L)	44.759	0.628506
Organic Chemical - Ct (ug/L)	47.6236	4.47842
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.939851	0.140341
Fraction of Sorbed Chemical - Organic Solid (-)	0.0305548	0.859659
Fraction of Sorbed Chemical - Oil (-)	0.0295943	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	6.75594	20.0393
Organic Chemical - Cl (ug/L)	0.631781	-
Organic Chemical - Ct (ug/L)	1.65591	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.38153	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.61847	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr
Mass Transfer Coefficient for Diffused Aeration	3.82924	m/hr
Biodegradation Rate in First Order Kinetics	3.83027	1/hr

Contaminant : Styrene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	261.238	49.8068
Organic Chemical - Cl (ug/L)	81.7152	8.28774
Organic Chemical - Ct (ug/L)	86.3833	47.1776
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.945961	0.175671
Fraction of Sorbed Chemical - Organic Solid (-)	0.0235588	0.824329
Fraction of Sorbed Chemical - Oil (-)	0.0304805	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	76.2536	136.442
Organic Chemical - Cl (ug/L)	8.33714	-
Organic Chemical - Ct (ug/L)	18.6901	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.446072	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.553928	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr
Mass Transfer Coefficient for Diffused Aeration	1.9711	m/hr
Biodegradation Rate in First Order Kinetics	0.234072	1/hr

Contaminant : Naphthalene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	159.014	3.0985
Organic Chemical - Cl (ug/L)	48.1559	0.34658
Organic Chemical - Ct (ug/L)	52.5811	2.93494
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.915839	0.118088
Fraction of Sorbed Chemical - Organic Solid (-)	0.036301	0.881912
Fraction of Sorbed Chemical - Oil (-)	0.0478596	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	4.22711	1.09638
Organic Chemical - Cl (ug/L)	0.348103	-
Organic Chemical - Ct (ug/L)	1.03608	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.33598	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.66402	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.371657	m/hr
Biodegradation Rate in First Order Kinetics	8.93729	1/hr

Contaminant : Dibutylphthalate

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9871	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716047	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0532	26.968
Organic Chemical - Cl (ug/L)	1.97356	0.267048
Organic Chemical - Ct (ug/L)	9.93767	25.5444
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.198593	0.0104543
Fraction of Sorbed Chemical - Organic Solid (-)	0.0997673	0.989546
Fraction of Sorbed Chemical - Oil (-)	0.701639	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.9	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	28.3813	0.000781955
Organic Chemical - Cl (ug/L)	0.26705	-
Organic Chemical - Ct (ug/L)	6.95637	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0383892	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.961611	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.000226637	m/hr
Biodegradation Rate in First Order Kinetics	2.12793	1/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	0.360142	0.0161425
Organic Chemical - Cl (ug/L)	0.118047	0.006739
Organic Chemical - Ct (ug/L)	0.119088	0.0152904
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.991262	0.440733
Fraction of Sorbed Chemical - Organic Solid (-)	0.00667591	0.559267
Fraction of Sorbed Chemical - Oil (-)	0.00206223	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0371218	0.179923
Organic Chemical - Cl (ug/L)	0.0068114	-
Organic Chemical - Ct (ug/L)	0.00909872	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.748611	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.251389	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr
Mass Transfer Coefficient for Diffused Aeration	3.18676	m/hr
Biodegradation Rate in First Order Kinetics	0.463888	1/hr

Contaminant : Acenaphthene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0058	1.95074
Organic Chemical - Cl (ug/L)	7.77423	0.101988
Organic Chemical - Ct (ug/L)	9.92199	1.84777
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.783536	0.055195
Fraction of Sorbed Chemical - Organic Solid (-)	0.0711835	0.944805
Fraction of Sorbed Chemical - Oil (-)	0.145281	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.30608	0.164257
Organic Chemical - Cl (ug/L)	0.102213	-
Organic Chemical - Ct (ug/L)	0.56523	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.180835	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.819165	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.185558	m/hr
Biodegradation Rate in First Order Kinetics	5.72412	1/hr

Contaminant : Acenaphthylene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0065	2.36212
Organic Chemical - Cl (ug/L)	7.22615	0.101929
Organic Chemical - Ct (ug/L)	9.92224	2.23743
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.728278	0.0455563
Fraction of Sorbed Chemical - Organic Solid (-)	0.0809799	0.954444
Fraction of Sorbed Chemical - Oil (-)	0.190742	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.72602	0.0803104
Organic Chemical - Cl (ug/L)	0.102098	-
Organic Chemical - Ct (ug/L)	0.668161	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.152804	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.847196	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0873048	m/hr
Biodegradation Rate in First Order Kinetics	5.7454	1/hr

Contaminant : Fluorene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0056	2.10328
Organic Chemical - Cl (ug/L)	6.76741	0.0788844
Organic Chemical - Ct (ug/L)	9.92194	1.99226
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.682065	0.0395955
Fraction of Sorbed Chemical - Organic Solid (-)	0.0878037	0.960405
Fraction of Sorbed Chemical - Oil (-)	0.230131	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.39129	0.0641214
Organic Chemical - Cl (ug/L)	0.0790039	-
Organic Chemical - Ct (ug/L)	0.586117	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.134792	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.865208	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0900117	m/hr
Biodegradation Rate in First Order Kinetics	7.44774	1/hr

Contaminant : Anthracene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0112	4.77172
Organic Chemical - Cl (ug/L)	5.47435	0.12638
Organic Chemical - Ct (ug/L)	9.92378	4.51983
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.551639	0.0279612
Fraction of Sorbed Chemical - Organic Solid (-)	0.10178	0.972039
Fraction of Sorbed Chemical - Oil (-)	0.346581	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	5.26464	0.0774033
Organic Chemical - Cl (ug/L)	0.126512	-
Organic Chemical - Ct (ug/L)	1.29039	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0980417	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.901958	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0662589	m/hr
Biodegradation Rate in First Order Kinetics	4.6176	1/hr

Contaminant : Phenanthrene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9867	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716049	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0112	4.77578
Organic Chemical - Cl (ug/L)	5.42323	0.124872
Organic Chemical - Ct (ug/L)	9.9238	4.52368
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.546487	0.0276041
Fraction of Sorbed Chemical - Organic Solid (-)	0.102171	0.972396
Fraction of Sorbed Chemical - Oil (-)	0.351342	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.89	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	5.26323	0.0378564
Organic Chemical - Cl (ug/L)	0.124978	-
Organic Chemical - Ct (ug/L)	1.29004	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0968789	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.903121	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.0302776	m/hr
Biodegradation Rate in First Order Kinetics	4.68144	1/hr

Contaminant : Fluoranthene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.9871	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716047	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0418	21.5703
Organic Chemical - Cl (ug/L)	1.56138	0.180245
Organic Chemical - Ct (ug/L)	9.93389	20.4316
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.157177	0.00882187
Fraction of Sorbed Chemical - Organic Solid (-)	0.0937262	0.991178
Fraction of Sorbed Chemical - Oil (-)	0.749097	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.9	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	22.6029	0.0110077
Organic Chemical - Cl (ug/L)	0.180264	-
Organic Chemical - Ct (ug/L)	5.54007	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0325383	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.967462	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00499539	m/hr
Biodegradation Rate in First Order Kinetics	3.19189	1/hr

Contaminant : Pyrene

Incoming Stream	**Combined_eff to BIO-B**	**RAS-B**
Flow Rate (m3/d)	3024.17	1055.73
Total Suspended Solids (mg/L)	48.987	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.716048	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	19.3941	0
Organic Chemical Mass (g/d)	30.0261	13.1156
Organic Chemical - Cl (ug/L)	2.04162	0.133354
Organic Chemical - Ct (ug/L)	9.92871	12.4233
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.205628	0.0107342
Fraction of Sorbed Chemical - Organic Solid (-)	0.100578	0.989266
Fraction of Sorbed Chemical - Oil (-)	0.693794	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**BIOB_eff**	**BIOB_air**
Flow Rate (m3/d)	4079.9	Infinite
Total Suspended Solids (mg/L)	3300	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	13.8148	0.00650048
Organic Chemical - Cl (ug/L)	0.133369	-
Organic Chemical - Ct (ug/L)	3.38606	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0393875	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.960612	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr
Mass Transfer Coefficient for Diffused Aeration	0.00390775	m/hr
Biodegradation Rate in First Order Kinetics	4.36225	1/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	2.16855	%
Contribution from Surface Volatilization	0.0053971	%
Contribution from Diffused Aeration	2.16316	%
Biodegradation	47.6368	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	45.5403	g/d
Contribution from Surface Volatilization	0.113341	g/d
Contribution from Diffused Aeration	45.427	g/d
Biodegradation	1000.39	g/d

Contaminant : Phenol

Total Air Emissions	0.000520813	%
Contribution from Surface Volatilization	0.000222274	%
Contribution from Diffused Aeration	0.000298538	%
Biodegradation	49.8915	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.000468739	g/d
Contribution from Surface Volatilization	0.00020005	g/d
Contribution from Diffused Aeration	0.000268689	g/d
Biodegradation	44.9031	g/d

Contaminant : Toluene

Total Air Emissions	4.66287	%
Contribution from Surface Volatilization	0.0097441	%
Contribution from Diffused Aeration	4.65313	%
Biodegradation	44.9681	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	139.609	g/d
Contribution from Surface Volatilization	0.291743	g/d
Contribution from Diffused Aeration	139.317	g/d
Biodegradation	1346.37	g/d

Contaminant : Ethylbenzene

Total Air Emissions	2.7733	%
Contribution from Surface Volatilization	0.00488138	%
Contribution from Diffused Aeration	2.76842	%
Biodegradation	47.0331	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	7.32163	g/d
Contribution from Surface Volatilization	0.0128871	g/d
Contribution from Diffused Aeration	7.30875	g/d
Biodegradation	124.169	g/d

Contaminant : Xylene

Total Air Emissions	6.95798	%
Contribution from Surface Volatilization	0.0181058	%
Contribution from Diffused Aeration	6.93987	%
Biodegradation	42.3446	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	20.0393	g/d
Contribution from Surface Volatilization	0.0521454	g/d
Contribution from Diffused Aeration	19.9872	g/d
Biodegradation	121.954	g/d

Contaminant : Styrene

Total Air Emissions	26.1378	%
Contribution from Surface Volatilization	0.128969	%
Contribution from Diffused Aeration	26.0089	%
Biodegradation	18.8404	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	136.442	g/d
Contribution from Surface Volatilization	0.673228	g/d
Contribution from Diffused Aeration	135.768	g/d
Biodegradation	98.3487	g/d

Contaminant : Naphthalene

Total Air Emissions	0.344767	%
Contribution from Surface Volatilization	0.00865162	%
Contribution from Diffused Aeration	0.336116	%
Biodegradation	49.304	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.09638	g/d
Contribution from Surface Volatilization	0.0275126	g/d
Contribution from Diffused Aeration	1.06886	g/d
Biodegradation	156.789	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.00130324	%
Contribution from Surface Volatilization	0.000469869	%
Contribution from Diffused Aeration	0.000833368	%
Biodegradation	47.7301	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000781955	g/d
Contribution from Surface Volatilization	0.000281926	g/d
Contribution from Diffused Aeration	0.000500029	g/d
Biodegradation	28.6385	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	24.9889	%
Contribution from Surface Volatilization	0.0820497	%
Contribution from Diffused Aeration	24.9068	%
Biodegradation	22.1163	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.179923	g/d
Contribution from Surface Volatilization	0.000590767	g/d
Contribution from Diffused Aeration	0.179332	g/d
Biodegradation	0.15924	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.273757	%
Contribution from Surface Volatilization	0.0126004	%
Contribution from Diffused Aeration	0.261157	%
Biodegradation	49.1428	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.164257	g/d
Contribution from Surface Volatilization	0.00756039	g/d
Contribution from Diffused Aeration	0.156697	g/d
Biodegradation	29.4862	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.133849	%
Contribution from Surface Volatilization	0.0111137	%
Contribution from Diffused Aeration	0.122735	%
Biodegradation	49.2697	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0803104	g/d
Contribution from Surface Volatilization	0.00666834	g/d
Contribution from Diffused Aeration	0.0736421	g/d
Biodegradation	29.5623	g/d

Contaminant : Fluorene

Total Air Emissions	0.106867	%
Contribution from Surface Volatilization	0.00894937	%
Contribution from Diffused Aeration	0.097918	%
Biodegradation	49.4217	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0641214	g/d
Contribution from Surface Volatilization	0.00536971	g/d
Contribution from Diffused Aeration	0.0587517	g/d
Biodegradation	29.6535	g/d

Contaminant : Anthracene

Total Air Emissions	0.129004	%
Contribution from Surface Volatilization	0.0135811	%
Contribution from Diffused Aeration	0.115422	%
Biodegradation	49.0672	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0774033	g/d
Contribution from Surface Volatilization	0.0081488	g/d
Contribution from Diffused Aeration	0.0692545	g/d
Biodegradation	29.4408	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.0630931	%
Contribution from Surface Volatilization	0.0109894	%
Contribution from Diffused Aeration	0.0521037	%
Biodegradation	49.1424	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0378564	g/d
Contribution from Surface Volatilization	0.00659374	g/d
Contribution from Diffused Aeration	0.0312627	g/d
Biodegradation	29.4859	g/d

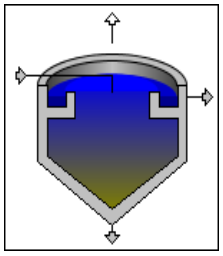
Contaminant : Fluoranthene

Total Air Emissions	0.0183459	%
Contribution from Surface Volatilization	0.00594669	%
Contribution from Diffused Aeration	0.0123992	%
Biodegradation	48.3284	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0110077	g/d
Contribution from Surface Volatilization	0.00356807	g/d
Contribution from Diffused Aeration	0.00743965	g/d
Biodegradation	28.9975	g/d

Contaminant : Pyrene

Total Air Emissions	0.010834	%
Contribution from Surface Volatilization	0.00365776	%
Contribution from Diffused Aeration	0.00717621	%
Biodegradation	48.8661	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00650048	g/d
Contribution from Surface Volatilization	0.00219469	g/d
Contribution from Diffused Aeration	0.00430579	g/d
Biodegradation	29.3202	g/d

WWTP - Secondary Clarifier A



Input Parameters

Data Entry			
Liquid Depth		6.1	m
Surface Area		232.4	m2
Weir Length		313.6	m
Waterfall Height		0.2	m
VSS to SS Ratio	-		%
Effluent SS Concentration		10	mg/L
Sludge SS Concentration		11230	mg/L
Removal Efficiency - Wastewater DOC		0	%
Covered	false		
Ventilation Rate	-		
Local pH value	-		
Advanced			
Kg/Kl Ratio for Weirs		100	

Output Data

Contaminant : Benzene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	7.9993
Organic Chemical - Cl (ug/L)	1.33263
Organic Chemical - Ct (ug/L)	1.88503
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.706957
Fraction of Sorbed Chemical - Organic Solid (-)	0.293043
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	3.93748	3.8803	0.10233	0.0791897
Organic Chemical - Cl (ug/L)	1.31117	1.32001	-	1.32001
Organic Chemical - Ct (ug/L)	1.31282	3.18201	-	3.18201
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.998745	0.414834	-	0.414834
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452	0.585166	-	0.585166
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr

Contaminant : Phenol

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.159869
Organic Chemical - Cl (ug/L)	0.0322087
Organic Chemical - Ct (ug/L)	0.0376731
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.854954
Fraction of Sorbed Chemical - Organic Solid (-)	0.145046
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.0965671	0.0619006	0.000138536	0.00126328
Organic Chemical - Cl (ug/L)	0.0321804	0.0321816	-	0.0321816
Organic Chemical - Ct (ug/L)	0.0321969	0.0507611	-	0.0507611
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.999486	0.633981	-	0.633981
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836	0.366019	-	0.366019
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr

Contaminant : Toluene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	28.9742
Organic Chemical - Cl (ug/L)	3.54647
Organic Chemical - Ct (ug/L)	6.82775
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.519421
Fraction of Sorbed Chemical - Organic Solid (-)	0.480579
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	10.5304	17.8203	0.259858	0.36368
Organic Chemical - Cl (ug/L)	3.50117	3.52253	-	3.52253
Organic Chemical - Ct (ug/L)	3.51099	14.6134	-	14.6134
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.997204	0.241048	-	0.241048
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586	0.758952	-	0.758952
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr

Contaminant : Ethylbenzene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.78886
Organic Chemical - Cl (ug/L)	0.160813
Organic Chemical - Ct (ug/L)	0.421542
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.381487
Fraction of Sorbed Chemical - Organic Solid (-)	0.618513
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.479643	1.2719	0.0113583	0.0259571
Organic Chemical - Cl (ug/L)	0.159138	0.160034	-	0.160034
Organic Chemical - Ct (ug/L)	0.15992	1.04301	-	1.04301
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.995111	0.153435	-	0.153435
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908	0.846565	-	0.846565
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr

Contaminant : Xylene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	7.02685
Organic Chemical - Cl (ug/L)	0.631764
Organic Chemical - Ct (ug/L)	1.65587
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.38153
Fraction of Sorbed Chemical - Organic Solid (-)	0.61847
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	1.88315	4.99524	0.0465261	0.101944
Organic Chemical - Cl (ug/L)	0.6248	0.628615	-	0.628615
Organic Chemical - Ct (ug/L)	0.627869	4.0963	-	4.0963
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.995112	0.153459	-	0.153459
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819	0.846541	-	0.846541
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr

Contaminant : Styrene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	79.3012
Organic Chemical - Cl (ug/L)	8.33585
Organic Chemical - Ct (ug/L)	18.6872
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.446072
Fraction of Sorbed Chemical - Organic Solid (-)	0.553928
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	24.8156	52.8189	0.588746	1.07794
Organic Chemical - Cl (ug/L)	8.24288	8.28836	-	8.28836
Organic Chemical - Ct (ug/L)	8.2739	43.3137	-	43.3137
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.996251	0.191356	-	0.191356
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889	0.808644	-	0.808644
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr

Contaminant : Naphthalene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	4.39666
Organic Chemical - Cl (ug/L)	0.348098
Organic Chemical - Ct (ug/L)	1.03607
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.33598
Fraction of Sorbed Chemical - Organic Solid (-)	0.66402
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	1.04162	3.26565	0.0227509	0.0666458
Organic Chemical - Cl (ug/L)	0.345223	0.346633	-	0.346633
Organic Chemical - Ct (ug/L)	0.347291	2.67797	-	2.67797
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.994047	0.129439	-	0.129439
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335	0.870561	-	0.870561
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.63
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	29.4985
Organic Chemical - Cl (ug/L)	0.266853
Organic Chemical - Ct (ug/L)	6.95125
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0383892
Fraction of Sorbed Chemical - Organic Solid (-)	0.961611
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.28	1219.46	Infinite	24.8869
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.861112	28.0645	0.000193758	0.572744
Organic Chemical - Cl (ug/L)	0.26685	0.266852	-	0.266852
Organic Chemical - Ct (ug/L)	0.287106	23.0139	-	23.0139
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.929449	0.0115952	-	0.0115952
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507	0.988405	-	0.988405
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0386096
Organic Chemical - Cl (ug/L)	0.0068111
Organic Chemical - Ct (ug/L)	0.00909832
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.748611
Fraction of Sorbed Chemical - Organic Solid (-)	0.251389
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.0200976	0.0176154	0.000537181	0.000359498
Organic Chemical - Cl (ug/L)	0.00669402	0.00674146	-	0.00674146
Organic Chemical - Ct (ug/L)	0.00670083	0.0144454	-	0.0144454
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.998983	0.466687	-	0.466687
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657	0.533313	-	0.533313
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr

Contaminant : Acenaphthene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.39849
Organic Chemical - Cl (ug/L)	0.102208
Organic Chemical - Ct (ug/L)	0.565201
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.180835
Fraction of Sorbed Chemical - Organic Solid (-)	0.819165
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.309245	2.04163	0.00594478	0.0416659
Organic Chemical - Cl (ug/L)	0.101711	0.101991	-	0.101991
Organic Chemical - Ct (ug/L)	0.103107	1.67422	-	1.67422
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.986459	0.0609183	-	0.0609183
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411	0.939082	-	0.939082
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr

Contaminant : Acenaphthylene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.83523
Organic Chemical - Cl (ug/L)	0.102091
Organic Chemical - Ct (ug/L)	0.668118
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.152804
Fraction of Sorbed Chemical - Organic Solid (-)	0.847196
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.310385	2.46949	0.00495924	0.0503977
Organic Chemical - Cl (ug/L)	0.101777	0.101929	-	0.101929
Organic Chemical - Ct (ug/L)	0.103487	2.02508	-	2.02508
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.983477	0.0503334	-	0.0503334
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234	0.949667	-	0.949667
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr

Contaminant : Fluorene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.48711
Organic Chemical - Cl (ug/L)	0.0789995
Organic Chemical - Ct (ug/L)	0.586084
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.134792
Fraction of Sorbed Chemical - Organic Solid (-)	0.865208
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.240785	2.19744	0.00403243	0.0448458
Organic Chemical - Cl (ug/L)	0.0787495	0.0788845	-	0.0788845
Organic Chemical - Ct (ug/L)	0.0802813	1.802	-	1.802
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.98092	0.0437762	-	0.0437762
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799	0.956224	-	0.956224
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr

Contaminant : Anthracene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	5.47519
Organic Chemical - Cl (ug/L)	0.126496
Organic Chemical - Ct (ug/L)	1.29022
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0980417
Fraction of Sorbed Chemical - Organic Solid (-)	0.901958
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.389056	4.97851	0.00601833	0.101602
Organic Chemical - Cl (ug/L)	0.126199	0.126369	-	0.126369
Organic Chemical - Ct (ug/L)	0.129717	4.08259	-	4.08259
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.972878	0.030953	-	0.030953
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219	0.969047	-	0.969047
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr

Contaminant : Phenanthrene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.6
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	5.47371
Organic Chemical - Cl (ug/L)	0.124962
Organic Chemical - Ct (ug/L)	1.28987
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0968789
Fraction of Sorbed Chemical - Organic Solid (-)	0.903121
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.27	1219.45	Infinite	24.8867
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.384801	4.98252	0.0047134	0.101684
Organic Chemical - Cl (ug/L)	0.124774	0.12486	-	0.12486
Organic Chemical - Ct (ug/L)	0.128299	4.08587	-	4.08587
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.972527	0.030559	-	0.030559
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729	0.969441	-	0.969441
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr

Contaminant : Fluoranthene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.63
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	23.496
Organic Chemical - Cl (ug/L)	0.180158
Organic Chemical - Ct (ug/L)	5.53678
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0325383
Fraction of Sorbed Chemical - Organic Solid (-)	0.967462
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.28	1219.46	Infinite	24.8869
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.588899	22.4466	0.00247601	0.458093
Organic Chemical - Cl (ug/L)	0.180118	0.180139	-	0.180139
Organic Chemical - Ct (ug/L)	0.196347	18.407	-	18.407
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.917347	0.00978643	-	0.00978643
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653	0.990214	-	0.990214
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr

Contaminant : Pyrene

Incoming Stream	**BIOA_eff**
Flow Rate (m3/d)	4243.62
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	14.364
Organic Chemical - Cl (ug/L)	0.133321
Organic Chemical - Ct (ug/L)	3.38484
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0393875
Fraction of Sorbed Chemical - Organic Solid (-)	0.960612
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-A_eff**	**RAS-A**	**SC-A_air**	**WAS-A**
Flow Rate (m3/d)	2999.28	1219.45	Infinite	24.8868
Total Suspended Solids (mg/L)	10	11230	-	11230
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.429333	13.6545	0.0015214	0.278663
Organic Chemical - Cl (ug/L)	0.133294	0.133307	-	0.133307
Organic Chemical - Ct (ug/L)	0.143145	11.1972	-	11.1972
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.931181	0.0119054	-	0.0119054
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192	0.988095	-	0.988095
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.00487279	%
Contribution from Surface Volatilization	0.00360911	%
Contribution from Weir Volatilization	0.00126369	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.10233	g/d
Contribution from Surface Volatilization	0.0757924	g/d
Contribution from Weir Volatilization	0.0265379	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	0.000153926	%
Contribution from Surface Volatilization	0.000149933	%
Contribution from Weir Volatilization	3.99312E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000138536	g/d
Contribution from Surface Volatilization	0.000134942	g/d
Contribution from Weir Volatilization	3.59386E-06	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.00867914	%
Contribution from Surface Volatilization	0.00653387	%
Contribution from Weir Volatilization	0.00214527	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.259858	g/d
Contribution from Surface Volatilization	0.195627	g/d
Contribution from Weir Volatilization	0.0642304	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.0043023	%
Contribution from Surface Volatilization	0.0032795	%
Contribution from Weir Volatilization	0.00102281	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0113583	g/d
Contribution from Surface Volatilization	0.00865801	g/d
Contribution from Weir Volatilization	0.00270026	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.0161546	%
Contribution from Surface Volatilization	0.0121621	%
Contribution from Weir Volatilization	0.00399251	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0465261	g/d
Contribution from Surface Volatilization	0.0350275	g/d
Contribution from Weir Volatilization	0.0114986	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.112785	%
Contribution from Surface Volatilization	0.0865588	%
Contribution from Weir Volatilization	0.026226	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.588746	g/d
Contribution from Surface Volatilization	0.451844	g/d
Contribution from Weir Volatilization	0.136902	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00715424	%
Contribution from Surface Volatilization	0.00581614	%
Contribution from Weir Volatilization	0.0013381	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0227509	g/d
Contribution from Surface Volatilization	0.0184956	g/d
Contribution from Weir Volatilization	0.00425523	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.000322925	%
Contribution from Surface Volatilization	0.000316978	%
Contribution from Weir Volatilization	5.94682E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000193758	g/d
Contribution from Surface Volatilization	0.00019019	g/d
Contribution from Weir Volatilization	3.56815E-06	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.0746073	%
Contribution from Surface Volatilization	0.0548238	%
Contribution from Weir Volatilization	0.0197835	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000537181	g/d
Contribution from Surface Volatilization	0.000394738	g/d
Contribution from Weir Volatilization	0.000142443	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00990781	%
Contribution from Surface Volatilization	0.00848819	%
Contribution from Weir Volatilization	0.00141963	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00594478	g/d
Contribution from Surface Volatilization	0.00509299	g/d
Contribution from Weir Volatilization	0.000851789	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00826526	%
Contribution from Surface Volatilization	0.00749063	%
Contribution from Weir Volatilization	0.000774635	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00495924	g/d
Contribution from Surface Volatilization	0.00449445	g/d
Contribution from Weir Volatilization	0.000464788	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.0067206	%
Contribution from Surface Volatilization	0.00603268	%
Contribution from Weir Volatilization	0.000687918	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00403243	g/d
Contribution from Surface Volatilization	0.00361967	g/d
Contribution from Weir Volatilization	0.000412757	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.0100304	%
Contribution from Surface Volatilization	0.00915837	%
Contribution from Weir Volatilization	0.000872018	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00601833	g/d
Contribution from Surface Volatilization	0.00549511	g/d
Contribution from Weir Volatilization	0.000523219	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00785554	%
Contribution from Surface Volatilization	0.00741207	%
Contribution from Weir Volatilization	0.000443472	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0047134	g/d
Contribution from Surface Volatilization	0.00444731	g/d
Contribution from Weir Volatilization	0.000266088	g/d
Biodegradation	0	g/d

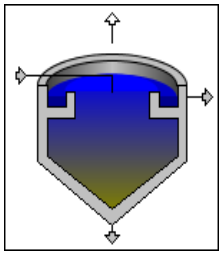
Contaminant : Fluoranthene

Total Air Emissions	0.00412662	%
Contribution from Surface Volatilization	0.00401188	%
Contribution from Weir Volatilization	0.000114743	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00247601	g/d
Contribution from Surface Volatilization	0.00240716	g/d
Contribution from Weir Volatilization	0.000068847	g/d
Biodegradation	0	g/d

Contaminant : Pyrene

Total Air Emissions	0.00253563	%
Contribution from Surface Volatilization	0.00246825	%
Contribution from Weir Volatilization	6.73864E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0015214	g/d
Contribution from Surface Volatilization	0.00148097	g/d
Contribution from Weir Volatilization	4.04325E-05	g/d
Biodegradation	0	g/d

WWTP - Secondary Clarifier B



Input Parameters

Data Entry			
Liquid Depth		6.1	m
Surface Area		232.4	m2
Weir Length		313.6	m
Waterfall Height		0.2	m
VSS to SS Ratio	-		%
Effluent SS Concentration		10	mg/L
Sludge SS Concentration		12470	mg/L
Removal Efficiency - Wastewater DOC		0	%
Covered	false		
Ventilation Rate	-		
Local pH value	-		
Advanced			
Kg/Kl Ratio for Weirs		100	

Output Data

Contaminant : Benzene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	7.69073
Organic Chemical - Cl (ug/L)	1.33264
Organic Chemical - Ct (ug/L)	1.88503
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.706957
Fraction of Sorbed Chemical - Organic Solid (-)	0.293043
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	3.94038	3.57505	0.102341	0.0729601
Organic Chemical - Cl (ug/L)	1.31067	1.31951	-	1.31951
Organic Chemical - Ct (ug/L)	1.31231	3.38633	-	3.38633
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.998745	0.389657	-	0.389657
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452	0.610343	-	0.610343
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr

Contaminant : Phenol

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.153702
Organic Chemical - Cl (ug/L)	0.0322088
Organic Chemical - Ct (ug/L)	0.0376731
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.854954
Fraction of Sorbed Chemical - Organic Solid (-)	0.145046
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.0966717	0.0557539	0.000138538	0.00113784
Organic Chemical - Cl (ug/L)	0.0321793	0.0321805	-	0.0321805
Organic Chemical - Ct (ug/L)	0.0321958	0.0528108	-	0.0528108
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.999486	0.609354	-	0.609354
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836	0.390646	-	0.390646
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr

Contaminant : Toluene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	27.8567
Organic Chemical - Cl (ug/L)	3.54651
Organic Chemical - Ct (ug/L)	6.82781
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.519421
Fraction of Sorbed Chemical - Organic Solid (-)	0.480579
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	10.5393	16.7163	0.259909	0.341149
Organic Chemical - Cl (ug/L)	3.50024	3.52161	-	3.52161
Organic Chemical - Ct (ug/L)	3.51005	15.8339	-	15.8339
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.997204	0.222409	-	0.222409
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586	0.777591	-	0.777591
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr

Contaminant : Ethylbenzene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.71986
Organic Chemical - Cl (ug/L)	0.160814
Organic Chemical - Ct (ug/L)	0.421545
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.381487
Fraction of Sorbed Chemical - Organic Solid (-)	0.618513
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.480087	1.20384	0.0113611	0.0245682
Organic Chemical - Cl (ug/L)	0.159108	0.160004	-	0.160004
Organic Chemical - Ct (ug/L)	0.15989	1.14029	-	1.14029
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.995111	0.140319	-	0.140319
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908	0.859681	-	0.859681
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr

Contaminant : Xylene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	6.75594
Organic Chemical - Cl (ug/L)	0.631781
Organic Chemical - Ct (ug/L)	1.65591
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.38153
Fraction of Sorbed Chemical - Organic Solid (-)	0.61847
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	1.88491	4.728	0.0465393	0.0964898
Organic Chemical - Cl (ug/L)	0.624688	0.628506	-	0.628506
Organic Chemical - Ct (ug/L)	0.627757	4.47842	-	4.47842
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.995112	0.140341	-	0.140341
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819	0.859659	-	0.859659
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr

Contaminant : Styrene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	76.2536
Organic Chemical - Cl (ug/L)	8.33714
Organic Chemical - Ct (ug/L)	18.6901
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.446072
Fraction of Sorbed Chemical - Organic Solid (-)	0.553928
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	24.8414	49.8068	0.588956	1.01647
Organic Chemical - Cl (ug/L)	8.24223	8.28774	-	8.28774
Organic Chemical - Ct (ug/L)	8.27325	47.1776	-	47.1776
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.996251	0.175671	-	0.175671
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889	0.824329	-	0.824329
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr

Contaminant : Naphthalene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	4.22711
Organic Chemical - Cl (ug/L)	0.348103
Organic Chemical - Ct (ug/L)	1.03608
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.33598
Fraction of Sorbed Chemical - Organic Solid (-)	0.66402
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	1.04262	3.0985	0.0227553	0.0632347
Organic Chemical - Cl (ug/L)	0.345169	0.34658	-	0.34658
Organic Chemical - Ct (ug/L)	0.347236	2.93494	-	2.93494
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.994047	0.118088	-	0.118088
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335	0.881912	-	0.881912
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.9
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	28.3813
Organic Chemical - Cl (ug/L)	0.26705
Organic Chemical - Ct (ug/L)	6.95637
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0383892
Fraction of Sorbed Chemical - Organic Solid (-)	0.961611
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.63	1055.73	Infinite	21.5456
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.862706	26.968	0.000193907	0.550368
Organic Chemical - Cl (ug/L)	0.267047	0.267048	-	0.267048
Organic Chemical - Ct (ug/L)	0.287317	25.5444	-	25.5444
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.929449	0.0104543	-	0.0104543
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507	0.989546	-	0.989546
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0371218
Organic Chemical - Cl (ug/L)	0.0068114
Organic Chemical - Ct (ug/L)	0.00909872
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.748611
Fraction of Sorbed Chemical - Organic Solid (-)	0.251389
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.0201126	0.0161425	0.000537249	0.00032944
Organic Chemical - Cl (ug/L)	0.00669153	0.006739	-	0.006739
Organic Chemical - Ct (ug/L)	0.00669834	0.0152904	-	0.0152904
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.998983	0.440733	-	0.440733
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657	0.559267	-	0.559267
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr

Contaminant : Acenaphthene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.30608
Organic Chemical - Cl (ug/L)	0.102213
Organic Chemical - Ct (ug/L)	0.56523
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.180835
Fraction of Sorbed Chemical - Organic Solid (-)	0.819165
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.30958	1.95074	0.00594616	0.039811
Organic Chemical - Cl (ug/L)	0.101707	0.101988	-	0.101988
Organic Chemical - Ct (ug/L)	0.103103	1.84777	-	1.84777
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.986459	0.055195	-	0.055195
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411	0.944805	-	0.944805
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr

Contaminant : Acenaphthylene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.72602
Organic Chemical - Cl (ug/L)	0.102098
Organic Chemical - Ct (ug/L)	0.668161
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.152804
Fraction of Sorbed Chemical - Organic Solid (-)	0.847196
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.310731	2.36212	0.00496009	0.0482066
Organic Chemical - Cl (ug/L)	0.101777	0.101929	-	0.101929
Organic Chemical - Ct (ug/L)	0.103487	2.23743	-	2.23743
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.983477	0.0455563	-	0.0455563
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234	0.954444	-	0.954444
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr

Contaminant : Fluorene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.39129
Organic Chemical - Cl (ug/L)	0.0790039
Organic Chemical - Ct (ug/L)	0.586117
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.134792
Fraction of Sorbed Chemical - Organic Solid (-)	0.865208
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.241053	2.10328	0.00403318	0.0429241
Organic Chemical - Cl (ug/L)	0.0787493	0.0788844	-	0.0788844
Organic Chemical - Ct (ug/L)	0.080281	1.99226	-	1.99226
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.98092	0.0395955	-	0.0395955
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799	0.960405	-	0.960405
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr

Contaminant : Anthracene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	5.26464
Organic Chemical - Cl (ug/L)	0.126512
Organic Chemical - Ct (ug/L)	1.29039
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0980417
Fraction of Sorbed Chemical - Organic Solid (-)	0.901958
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.389525	4.77172	0.00601983	0.097382
Organic Chemical - Cl (ug/L)	0.12621	0.12638	-	0.12638
Organic Chemical - Ct (ug/L)	0.129728	4.51983	-	4.51983
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.972878	0.0279612	-	0.0279612
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219	0.972039	-	0.972039
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr

Contaminant : Phenanthrene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.89
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	5.26323
Organic Chemical - Cl (ug/L)	0.124978
Organic Chemical - Ct (ug/L)	1.29004
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0968789
Fraction of Sorbed Chemical - Organic Solid (-)	0.903121
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.385268	4.77578	0.00471435	0.0974649
Organic Chemical - Cl (ug/L)	0.124786	0.124872	-	0.124872
Organic Chemical - Ct (ug/L)	0.128311	4.52368	-	4.52368
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.972527	0.0276041	-	0.0276041
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729	0.972396	-	0.972396
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr

Contaminant : Fluoranthene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.9
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	22.6029
Organic Chemical - Cl (ug/L)	0.180264
Organic Chemical - Ct (ug/L)	5.54007
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0325383
Fraction of Sorbed Chemical - Organic Solid (-)	0.967462
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.63	1055.73	Infinite	21.5456
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.589903	21.5703	0.0024776	0.440211
Organic Chemical - Cl (ug/L)	0.180224	0.180245	-	0.180245
Organic Chemical - Ct (ug/L)	0.196462	20.4316	-	20.4316
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.917347	0.00882187	-	0.00882187
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653	0.991178	-	0.991178
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr

Contaminant : Pyrene

Incoming Stream	**BIOB_eff**
Flow Rate (m3/d)	4079.9
Total Suspended Solids (mg/L)	3300
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	13.8148
Organic Chemical - Cl (ug/L)	0.133369
Organic Chemical - Ct (ug/L)	3.38606
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0393875
Fraction of Sorbed Chemical - Organic Solid (-)	0.960612
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**SC-B_eff**	**RAS-B**	**SC-B_air**	**WAS-B**
Flow Rate (m3/d)	3002.62	1055.73	Infinite	21.5455
Total Suspended Solids (mg/L)	10	12470	-	12470
Suspended Solids Mass (g/d)	-	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-	0.53
Wastewater DOC (mg/L)	0	0	-	0
Oil/Grease (mg/L)	0	0	-	0
Organic Chemical Mass (g/d)	0.429965	13.1156	0.00152202	0.267666
Organic Chemical - Cl (ug/L)	0.133342	0.133354	-	0.133354
Organic Chemical - Ct (ug/L)	0.143196	12.4233	-	12.4233
Metal - Cl (ug/L)	0	0	-	0
Metal - Ct (ug/L)	-	-	-	-
Metal Mass (g/d)	-	-	-	-
Precipitated Metal (mg/L)	0	0	-	0
Powdered Activated Carbon (mg/L)	0	0	-	0
Temperature (deg C)	25	25	-	25
MKp (L/g)	0	0	-	0
Solubility (mg/L)	0	0	-	0
pH (-)	7	7	-	7
Fraction of Soluble Chemical (-)	0.931181	0.0107342	-	0.0107342
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192	0.989266	-	0.989266
Fraction of Sorbed Chemical - Oil (-)	0	0	-	0
Fraction of Sorbed Chemical - DOC (-)	0	0	-	0
Fraction of Sorbed Chemical - PAC (-)	0	0	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.0048733	%
Contribution from Surface Volatilization	0.00360775	%
Contribution from Weir Volatilization	0.00126555	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.102341	g/d
Contribution from Surface Volatilization	0.0757639	g/d
Contribution from Weir Volatilization	0.026577	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	0.000153928	%
Contribution from Surface Volatilization	0.000149928	%
Contribution from Weir Volatilization	4.00039E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000138538	g/d
Contribution from Surface Volatilization	0.000134937	g/d
Contribution from Weir Volatilization	3.60041E-06	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.00868084	%
Contribution from Surface Volatilization	0.00653216	%
Contribution from Weir Volatilization	0.00214868	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.259909	g/d
Contribution from Surface Volatilization	0.195576	g/d
Contribution from Weir Volatilization	0.0643326	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.0043034	%
Contribution from Surface Volatilization	0.00327888	%
Contribution from Weir Volatilization	0.00102451	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0113611	g/d
Contribution from Surface Volatilization	0.00865639	g/d
Contribution from Weir Volatilization	0.00270475	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.0161592	%
Contribution from Surface Volatilization	0.01216	%
Contribution from Weir Volatilization	0.00399921	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0465393	g/d
Contribution from Surface Volatilization	0.0350214	g/d
Contribution from Weir Volatilization	0.0115179	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.112825	%
Contribution from Surface Volatilization	0.0865523	%
Contribution from Weir Volatilization	0.0262726	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.588956	g/d
Contribution from Surface Volatilization	0.45181	g/d
Contribution from Weir Volatilization	0.137145	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00715562	%
Contribution from Surface Volatilization	0.00581525	%
Contribution from Weir Volatilization	0.00134038	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0227553	g/d
Contribution from Surface Volatilization	0.0184928	g/d
Contribution from Weir Volatilization	0.00426247	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.000323173	%
Contribution from Surface Volatilization	0.000317211	%
Contribution from Weir Volatilization	5.96221E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000193907	g/d
Contribution from Surface Volatilization	0.00019033	g/d
Contribution from Weir Volatilization	3.57738E-06	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.0746167	%
Contribution from Surface Volatilization	0.0548038	%
Contribution from Weir Volatilization	0.0198129	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000537249	g/d
Contribution from Surface Volatilization	0.000394594	g/d
Contribution from Weir Volatilization	0.000142655	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00991011	%
Contribution from Surface Volatilization	0.0084879	%
Contribution from Weir Volatilization	0.00142221	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00594616	g/d
Contribution from Surface Volatilization	0.00509282	g/d
Contribution from Weir Volatilization	0.00085334	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00826669	%
Contribution from Surface Volatilization	0.00749062	%
Contribution from Weir Volatilization	0.000776071	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00496009	g/d
Contribution from Surface Volatilization	0.00449444	g/d
Contribution from Weir Volatilization	0.00046565	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.00672186	%
Contribution from Surface Volatilization	0.00603267	%
Contribution from Weir Volatilization	0.000689192	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00403318	g/d
Contribution from Surface Volatilization	0.00361966	g/d
Contribution from Weir Volatilization	0.000413522	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.0100329	%
Contribution from Surface Volatilization	0.00915918	%
Contribution from Weir Volatilization	0.000873713	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00601983	g/d
Contribution from Surface Volatilization	0.0054956	g/d
Contribution from Weir Volatilization	0.000524236	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00785712	%
Contribution from Surface Volatilization	0.00741278	%
Contribution from Weir Volatilization	0.000444338	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00471435	g/d
Contribution from Surface Volatilization	0.00444774	g/d
Contribution from Weir Volatilization	0.000266607	g/d
Biodegradation	0	g/d

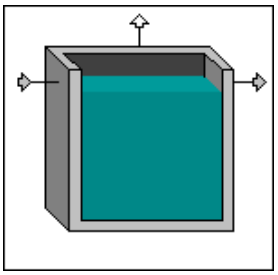
Contaminant : Fluoranthene

Total Air Emissions	0.00412926	%
Contribution from Surface Volatilization	0.00401424	%
Contribution from Weir Volatilization	0.000115023	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0024776	g/d
Contribution from Surface Volatilization	0.00240858	g/d
Contribution from Weir Volatilization	0.000069015	g/d
Biodegradation	0	g/d

Contaminant : Pyrene

Total Air Emissions	0.00253666	%
Contribution from Surface Volatilization	0.00246913	%
Contribution from Weir Volatilization	6.75352E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00152202	g/d
Contribution from Surface Volatilization	0.0014815	g/d
Contribution from Weir Volatilization	4.05218E-05	g/d
Biodegradation	0	g/d

WWTP - Biosludge Holding Tank (T-59701A/B)



Input Parameters

Data Entry

Liquid Depth	6	m
Surface Area	80.32	m2
VSS to SS Ratio	-	%
Removal Efficiency - Wastewater DOC	0	%
Covered	false	
Ventilation Rate	-	
Local pH value	-	

Advanced

Water Surface Covered with Oil	0	%
Oil Layer Mass Transfer Coefficent	Hydromantis Method	

Output Data

Contaminant : Benzene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0791897	0.0729601
Organic Chemical - Cl (ug/L)	1.32001	1.31951
Organic Chemical - Ct (ug/L)	3.18201	3.38633
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.414834	0.389657
Fraction of Sorbed Chemical - Organic Solid (-)	0.585166	0.610343
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.129806	0.0223439
Organic Chemical - Cl (ug/L)	1.12595	-
Organic Chemical - Ct (ug/L)	2.7956	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.402759	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.597241	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr

Contaminant : Phenol

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.00126328	0.00113784
Organic Chemical - Cl (ug/L)	0.0321816	0.0321805
Organic Chemical - Ct (ug/L)	0.0507611	0.0528108
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.633981	0.609354
Fraction of Sorbed Chemical - Organic Solid (-)	0.366019	0.390646
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.00235536	4.57481E-05
Organic Chemical - Cl (ug/L)	0.0315679	-
Organic Chemical - Ct (ug/L)	0.0507269	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.622311	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.377689	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr

Contaminant : Toluene

Incoming Stream	WAS-A	WAS-B
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.36368	0.341149
Organic Chemical - Cl (ug/L)	3.52253	3.52161
Organic Chemical - Ct (ug/L)	14.6134	15.8339
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.241048	0.222409
Fraction of Sorbed Chemical - Organic Solid (-)	0.758952	0.777591
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.643143	0.0616858
Organic Chemical - Cl (ug/L)	3.21383	-
Organic Chemical - Ct (ug/L)	13.8512	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.232025	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.767975	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr

Contaminant : Ethylbenzene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0259571	0.0245682
Organic Chemical - Cl (ug/L)	0.160034	0.160004
Organic Chemical - Ct (ug/L)	1.04301	1.14029
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.153435	0.140319
Fraction of Sorbed Chemical - Organic Solid (-)	0.846565	0.859681
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0477005	0.00282475
Organic Chemical - Cl (ug/L)	0.151073	-
Organic Chemical - Ct (ug/L)	1.02731	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.147057	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.852943	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr

Contaminant : Xylene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.101944	0.0964898
Organic Chemical - Cl (ug/L)	0.628615	0.628506
Organic Chemical - Ct (ug/L)	4.0963	4.47842
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.153459	0.140341
Fraction of Sorbed Chemical - Organic Solid (-)	0.846541	0.859659
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.187025	0.0114089
Organic Chemical - Cl (ug/L)	0.592423	-
Organic Chemical - Ct (ug/L)	4.0279	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.14708	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.85292	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr

Contaminant : Styrene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	1.07794	1.01647
Organic Chemical - Cl (ug/L)	8.28836	8.28774
Organic Chemical - Ct (ug/L)	43.3137	47.1776
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.191356	0.175671
Fraction of Sorbed Chemical - Organic Solid (-)	0.808644	0.824329
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.94908	0.145322
Organic Chemical - Cl (ug/L)	7.71298	-
Organic Chemical - Ct (ug/L)	41.9769	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.183744	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.816256	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr

Contaminant : Naphthalene

Incoming Stream	WAS-A	WAS-B
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0666458	0.0632347
Organic Chemical - Cl (ug/L)	0.346633	0.34658
Organic Chemical - Ct (ug/L)	2.67797	2.93494
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.129439	0.118088
Fraction of Sorbed Chemical - Organic Solid (-)	0.870561	0.881912
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.123789	0.00609201
Organic Chemical - Cl (ug/L)	0.33035	-
Organic Chemical - Ct (ug/L)	2.66601	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.123912	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.876088	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8869	21.5456
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.572744	0.550368
Organic Chemical - Cl (ug/L)	0.266852	0.267048
Organic Chemical - Ct (ug/L)	23.0139	25.5444
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0115952	0.0104543
Fraction of Sorbed Chemical - Organic Solid (-)	0.988405	0.989546
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4324	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.12305	6.57516E-05
Organic Chemical - Cl (ug/L)	0.266932	-
Organic Chemical - Ct (ug/L)	24.1867	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0110363	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.988964	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	WAS-A	WAS-B
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.000359498	0.00032944
Organic Chemical - Cl (ug/L)	0.00674146	0.006739
Organic Chemical - Ct (ug/L)	0.0144454	0.0152904
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.466687	0.440733
Fraction of Sorbed Chemical - Organic Solid (-)	0.533313	0.559267
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.000575078	0.000113859
Organic Chemical - Cl (ug/L)	0.00562633	-
Organic Chemical - Ct (ug/L)	0.0123853	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.454274	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.545726	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr

Contaminant : Acenaphthene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0416659	0.039811
Organic Chemical - Cl (ug/L)	0.101991	0.101988
Organic Chemical - Ct (ug/L)	1.67422	1.84777
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0609183	0.055195
Fraction of Sorbed Chemical - Organic Solid (-)	0.939082	0.944805
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.079754	0.00172294
Organic Chemical - Cl (ug/L)	0.0998325	-
Organic Chemical - Ct (ug/L)	1.71764	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0581218	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.941878	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr

Contaminant : Acenaphthylene

Incoming Stream	WAS-A	WAS-B
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0503977	0.0482066
Organic Chemical - Cl (ug/L)	0.101929	0.101929
Organic Chemical - Ct (ug/L)	2.02508	2.23743
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0503334	0.0455563
Fraction of Sorbed Chemical - Organic Solid (-)	0.949667	0.954444
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0970751	0.00152924
Organic Chemical - Cl (ug/L)	0.100349	-
Organic Chemical - Ct (ug/L)	2.09068	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0479979	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.952002	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr

Contaminant : Fluorene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0448458	0.0429241
Organic Chemical - Cl (ug/L)	0.0788845	0.0788844
Organic Chemical - Ct (ug/L)	1.802	1.99226
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0437762	0.0395955
Fraction of Sorbed Chemical - Organic Solid (-)	0.956224	0.960405
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0865365	0.00123342
Organic Chemical - Cl (ug/L)	0.0777759	-
Organic Chemical - Ct (ug/L)	1.86372	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0417316	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.958268	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr

Contaminant : Anthracene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.101602	0.097382
Organic Chemical - Cl (ug/L)	0.126369	0.12638
Organic Chemical - Ct (ug/L)	4.08259	4.51983
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.030953	0.0279612
Fraction of Sorbed Chemical - Organic Solid (-)	0.969047	0.972039
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.197103	0.0018813
Organic Chemical - Cl (ug/L)	0.125179	-
Organic Chemical - Ct (ug/L)	4.24496	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0294889	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.970511	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr

Contaminant : Phenanthrene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8867	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.101684	0.0974649
Organic Chemical - Cl (ug/L)	0.12486	0.124872
Organic Chemical - Ct (ug/L)	4.08587	4.52368
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.030559	0.0276041
Fraction of Sorbed Chemical - Organic Solid (-)	0.969441	0.972396
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**WAS holding _eff**	**Sludge tk_air**
Flow Rate (m3/d)	46.4322	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.197624	0.00152534
Organic Chemical - Cl (ug/L)	0.12391	-
Organic Chemical - Ct (ug/L)	4.25617	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0291129	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.970887	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr

Contaminant : Fluoranthene

Incoming Stream	**WAS-A**	**WAS-B**
Flow Rate (m3/d)	24.8869	21.5456
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.458093	0.440211
Organic Chemical - Cl (ug/L)	0.180139	0.180245
Organic Chemical - Ct (ug/L)	18.407	20.4316
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.00978643	0.00882187
Fraction of Sorbed Chemical - Organic Solid (-)	0.990214	0.991178
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4324	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.897473	0.000831413
Organic Chemical - Cl (ug/L)	0.180024	-
Organic Chemical - Ct (ug/L)	19.3286	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.00931389	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.990686	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr

Contaminant : Pyrene

Incoming Stream	WAS-A	WAS-B
Flow Rate (m3/d)	24.8868	21.5455
Total Suspended Solids (mg/L)	11230	12470
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.278663	0.267666
Organic Chemical - Cl (ug/L)	0.133307	0.133354
Organic Chemical - Ct (ug/L)	11.1972	12.4233
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0119054	0.0107342
Fraction of Sorbed Chemical - Organic Solid (-)	0.988095	0.989266
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	WAS holding _eff	Sludge tk_air
Flow Rate (m3/d)	46.4324	Infinite
Total Suspended Solids (mg/L)	11805.4	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.545817	0.00051145
Organic Chemical - Cl (ug/L)	0.133205	-
Organic Chemical - Ct (ug/L)	11.7551	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.0113317	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.988668	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.00106398	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0223439	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	5.08304E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	4.57481E-05	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.00206028	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0616858	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.00106997	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00282475	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.00396136	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0114089	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.0278389	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.145322	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00191569	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00609201	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.000109584	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	6.57516E-05	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.0158135	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000113859	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00287153	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00172294	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00254869	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00152924	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.00205566	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00123342	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.00313544	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0018813	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00254219	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00152534	g/d
Biodegradation	0	g/d

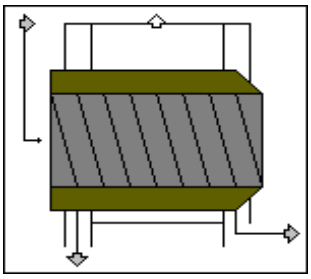
Contaminant : Fluoranthene

Total Air Emissions	0.00138567	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000831413	g/d
Biodegradation	0	g/d

Contaminant : Pyrene

Total Air Emissions	0.000852403	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00051145	g/d
Biodegradation	0	g/d

WWTP - Centrifuge



Input Parameters

Data Entry

Final Solids Concentration		12	%
Filtrate/Centrate SS Concentration		1081	mg/L
VSS to SS Ratio	-		%
Removal Efficiency - Wastewater DOC		0	%
Local pH value	-		

Output Data

Contaminant : Benzene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.129806
Organic Chemical - Cl (ug/L)	1.12595
Organic Chemical - Ct (ug/L)	2.7956
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.402759
Fraction of Sorbed Chemical - Organic Solid (-)	0.597241
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.0757422	0.0539964	6.74158E-05
Organic Chemical - Cl (ug/L)	1.12537	1.12537	-
Organic Chemical - Ct (ug/L)	18.0883	1.27818	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0622154	0.880449	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.937785	0.119551	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Phenol

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.00235536
Organic Chemical - Cl (ug/L)	0.0315679
Organic Chemical - Ct (ug/L)	0.0507269
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.622311
Fraction of Sorbed Chemical - Organic Solid (-)	0.377689
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.00094767	0.00140769	4.3612E-10
Organic Chemical - Cl (ug/L)	0.0315679	0.0315679	-
Organic Chemical - Ct (ug/L)	0.226317	0.0333223	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.139486	0.947352	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.860514	0.0526483	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Toluene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.643143
Organic Chemical - Cl (ug/L)	3.21383
Organic Chemical - Ct (ug/L)	13.8512
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.232025
Fraction of Sorbed Chemical - Organic Solid (-)	0.767975
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.466061	0.176854	0.000227866
Organic Chemical - Cl (ug/L)	3.21269	3.21269	-
Organic Chemical - Ct (ug/L)	111.302	4.1864	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0288647	0.767413	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.971135	0.232587	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Ethylbenzene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0477005
Organic Chemical - Cl (ug/L)	0.151073
Organic Chemical - Ct (ug/L)	1.02731
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.147057
Fraction of Sorbed Chemical - Organic Solid (-)	0.852943
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.0379187	0.009769	1.28194E-05
Organic Chemical - Cl (ug/L)	0.151033	0.151033	-
Organic Chemical - Ct (ug/L)	9.0555	0.231247	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0166786	0.653123	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.983321	0.346877	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Xylene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.187025
Organic Chemical - Cl (ug/L)	0.592423
Organic Chemical - Ct (ug/L)	4.0279
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.14708
Fraction of Sorbed Chemical - Organic Solid (-)	0.85292
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.148682	0.0383095	3.30348E-05
Organic Chemical - Cl (ug/L)	0.592318	0.592318	-
Organic Chemical - Ct (ug/L)	35.5073	0.906844	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0166816	0.653164	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.983318	0.346836	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Styrene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.94908
Organic Chemical - Cl (ug/L)	7.71298
Organic Chemical - Ct (ug/L)	41.9769
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.183744
Fraction of Sorbed Chemical - Organic Solid (-)	0.816256
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	1.49054	0.458326	0.000214528
Organic Chemical - Cl (ug/L)	7.71214	7.71214	-
Organic Chemical - Ct (ug/L)	355.961	10.8493	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0216657	0.710843	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.978334	0.289157	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Naphthalene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.123789
Organic Chemical - Cl (ug/L)	0.33035
Organic Chemical - Ct (ug/L)	2.66601
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.123912
Fraction of Sorbed Chemical - Organic Solid (-)	0.876088
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.100797	0.0229903	1.69209E-06
Organic Chemical - Cl (ug/L)	0.330346	0.330346	-
Organic Chemical - Ct (ug/L)	24.0716	0.544215	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0137234	0.607013	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.986277	0.392987	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Dibutylphthalate

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4324
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.12305
Organic Chemical - Cl (ug/L)	0.266932
Organic Chemical - Ct (ug/L)	24.1867
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0110363
Fraction of Sorbed Chemical - Organic Solid (-)	0.988964
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18738	42.2451	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	1.01924	0.103806	8.5107E-10
Organic Chemical - Cl (ug/L)	0.266932	0.266932	-
Organic Chemical - Ct (ug/L)	243.408	2.45723	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00109665	0.108631	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.998903	0.891369	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.000575078
Organic Chemical - Cl (ug/L)	0.00562633
Organic Chemical - Ct (ug/L)	0.0123853
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.454274
Fraction of Sorbed Chemical - Organic Solid (-)	0.545726
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.000311111	0.000263713	2.54194E-07
Organic Chemical - Cl (ug/L)	0.00562384	0.00562384	-
Organic Chemical - Ct (ug/L)	0.0742977	0.00624248	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0756934	0.900899	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.924307	0.0991012	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Acenaphthene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.079754
Organic Chemical - Cl (ug/L)	0.0998325
Organic Chemical - Ct (ug/L)	1.71764
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0581218
Fraction of Sorbed Chemical - Organic Solid (-)	0.941878
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.0692782	0.0104755	2.55684E-07
Organic Chemical - Cl (ug/L)	0.0998322	0.0998322	-
Organic Chemical - Ct (ug/L)	16.5446	0.247972	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00603413	0.402595	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.993966	0.597405	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Acenaphthylene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0970751
Organic Chemical - Cl (ug/L)	0.100349
Organic Chemical - Ct (ug/L)	2.09068
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0479979
Fraction of Sorbed Chemical - Organic Solid (-)	0.952002
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.0851366	0.0119384	1.2159E-07
Organic Chemical - Cl (ug/L)	0.100348	0.100348	-
Organic Chemical - Ct (ug/L)	20.3318	0.2826	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00493554	0.35509	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.995064	0.64491	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Fluorene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0865365
Organic Chemical - Cl (ug/L)	0.0777759
Organic Chemical - Ct (ug/L)	1.86372
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0417316
Fraction of Sorbed Chemical - Organic Solid (-)	0.958268
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.0763422	0.0101942	9.66662E-08
Organic Chemical - Cl (ug/L)	0.0777758	0.0777758	-
Organic Chemical - Ct (ug/L)	18.2316	0.241311	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00426599	0.322305	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.995734	0.677695	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Anthracene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.197103
Organic Chemical - Cl (ug/L)	0.125179
Organic Chemical - Ct (ug/L)	4.24496
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0294889
Fraction of Sorbed Chemical - Organic Solid (-)	0.970511
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.175878	0.0212247	1.14572E-07
Organic Chemical - Cl (ug/L)	0.125179	0.125179	-
Organic Chemical - Ct (ug/L)	42.0021	0.502421	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00298031	0.249152	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.99702	0.750848	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Phenanthrene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4322
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.197624
Organic Chemical - Cl (ug/L)	0.12391
Organic Chemical - Ct (ug/L)	4.25617
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0291129
Fraction of Sorbed Chemical - Organic Solid (-)	0.970887
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18736	42.2448	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.176404	0.0212193	5.18724E-08
Organic Chemical - Cl (ug/L)	0.12391	0.12391	-
Organic Chemical - Ct (ug/L)	42.1278	0.502294	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.00294128	0.246687	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.997059	0.753313	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Fluoranthene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4324
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.897473
Organic Chemical - Cl (ug/L)	0.180024
Organic Chemical - Ct (ug/L)	19.3286
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.00931389
Fraction of Sorbed Chemical - Organic Solid (-)	0.990686
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18738	42.245	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.815795	0.0816777	1.24515E-08
Organic Chemical - Cl (ug/L)	0.180024	0.180024	-
Organic Chemical - Ct (ug/L)	194.822	1.93343	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.000924044	0.0931115	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.999076	0.906888	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Contaminant : Pyrene

Incoming Stream	**WAS holding _eff**
Flow Rate (m3/d)	46.4324
Total Suspended Solids (mg/L)	11805.4
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.545817
Organic Chemical - Cl (ug/L)	0.133205
Organic Chemical - Ct (ug/L)	11.7551
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.0113317
Fraction of Sorbed Chemical - Organic Solid (-)	0.988668
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**DW centrifuge_cake**	**DW centrifuge_filtrate**	**DW centrifuge_air**
Flow Rate (m3/d)	4.18738	42.245	Infinite
Total Suspended Solids (mg/L)	120000	1081	-
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	0.53	0.53	-
Wastewater DOC (mg/L)	0	0	-
Oil/Grease (mg/L)	0	0	-
Organic Chemical Mass (g/d)	0.495233	0.0505843	7.20432E-09
Organic Chemical - Cl (ug/L)	0.133205	0.133205	-
Organic Chemical - Ct (ug/L)	118.268	1.1974	-
Metal - Cl (ug/L)	0	0	-
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	0	0	-
Powdered Activated Carbon (mg/L)	0	0	-
Temperature (deg C)	25	25	-
MKp (L/g)	0	0	-
Solubility (mg/L)	0	0	-
pH (-)	7	7	-
Fraction of Soluble Chemical (-)	0.0011263	0.111245	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.998874	0.888755	-
Fraction of Sorbed Chemical - Oil (-)	0	0	-
Fraction of Sorbed Chemical - DOC (-)	0	0	-
Fraction of Sorbed Chemical - PAC (-)	0	0	-

Fate Summary

Contaminant : Benzene

Total Air Emissions	3.21022E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	6.74158E-05	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	4.8457E-10	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	4.3612E-10	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	7.61063E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000227866	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	4.85577E-06	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.28194E-05	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	1.14702E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	3.30348E-05	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	4.10966E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000214528	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	5.32096E-07	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.69209E-06	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	1.41843E-09	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	8.5107E-10	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	3.53041E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	2.54194E-07	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	4.26133E-07	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	2.55684E-07	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	2.02647E-07	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.2159E-07	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	1.61108E-07	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	9.66662E-08	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	1.9095E-07	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.14572E-07	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	8.64526E-08	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	5.18724E-08	g/d
Biodegradation	0	g/d

Contaminant : Fluoranthene

Total Air Emissions	2.07522E-08	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.24515E-08	g/d
Biodegradation	0	g/d

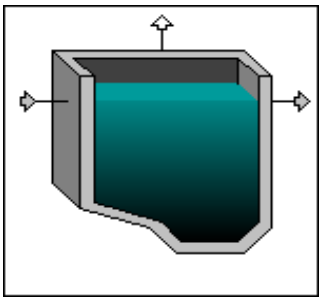
Contaminant : Pyrene

Total Air Emissions	1.2007E-08	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	7.20432E-09	g/d
Biodegradation	0	g/d

WWTP - Sand Filter



Input Parameters

Data Entry			
Liquid Depth		3.7	m
Surface Area		100.8	m2
VSS to SS Ratio	-		%
Process Air Flow Rate		0	m3/hr
Removal Efficiency - Wastewater DOC		0	%
Covered	false		
Ventilation Rate	-		
Local pH value	-		
Advanced			
Oxygen Transfer Efficiency		6	%
Mole Fraction of Oxygen in Gas Source		0.209	O2/Air
Kg/Kl Ratio for Diffused System		3	
Water Surface Covered with Oil		0	%
Oil Layer Mass Transfer Coefficent	Hydromantis Method		

Output Data

Contaminant : Benzene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	3.93748	3.94038
Organic Chemical - Cl (ug/L)	1.31117	1.31067
Organic Chemical - Ct (ug/L)	1.31282	1.31231
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.998745	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452	0.00125452
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0325128	7.83747	0.00784532
Organic Chemical - Cl (ug/L)	-	1.30551	1.30551
Organic Chemical - Ct (ug/L)	-	1.30715	1.30715
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.998745	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00125452	0.00125452
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Phenol

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0965671	0.0966717
Organic Chemical - Cl (ug/L)	0.0321804	0.0321793
Organic Chemical - Ct (ug/L)	0.0321969	0.0321958
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.999486	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836	0.000513836
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	5.85081E-05	0.192986	0.00019318
Organic Chemical - Cl (ug/L)	-	0.0321701	0.0321701
Organic Chemical - Ct (ug/L)	-	0.0321866	0.0321866
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.999486	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.000513836	0.000513836
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Toluene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	10.5304	10.5393
Organic Chemical - Cl (ug/L)	3.50117	3.50024
Organic Chemical - Ct (ug/L)	3.51099	3.51005
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.997204	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586	0.00279586
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0839885	20.9647	0.0209857
Organic Chemical - Cl (ug/L)	-	3.48675	3.48675
Organic Chemical - Ct (ug/L)	-	3.49653	3.49653
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.997204	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00279586	0.00279586
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Ethylbenzene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.479643	0.480087
Organic Chemical - Cl (ug/L)	0.159138	0.159108
Organic Chemical - Ct (ug/L)	0.15992	0.15989
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.995111	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908	0.00488908
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00371943	0.955051	0.000956007
Organic Chemical - Cl (ug/L)	-	0.158506	0.158506
Organic Chemical - Ct (ug/L)	-	0.159285	0.159285
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.995111	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00488908	0.00488908
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Xylene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	1.88315	1.88491
Organic Chemical - Cl (ug/L)	0.6248	0.624688
Organic Chemical - Ct (ug/L)	0.627869	0.627757
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.995112	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819	0.00488819
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0150388	3.74925	0.003753
Organic Chemical - Cl (ug/L)	-	0.62225	0.62225
Organic Chemical - Ct (ug/L)	-	0.625307	0.625307
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.995112	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00488819	0.00488819
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Styrene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	24.8156	24.8414
Organic Chemical - Cl (ug/L)	8.24288	8.24223
Organic Chemical - Ct (ug/L)	8.2739	8.27325
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.996251	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889	0.00374889
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.194135	49.4131	0.0494626
Organic Chemical - Cl (ug/L)	-	8.21031	8.21031
Organic Chemical - Ct (ug/L)	-	8.2412	8.2412
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.996251	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00374889	0.00374889
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Naphthalene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	1.04162	1.04262
Organic Chemical - Cl (ug/L)	0.345223	0.345169
Organic Chemical - Ct (ug/L)	0.347291	0.347236
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.994047	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335	0.00595335
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00795843	2.07419	0.00207627
Organic Chemical - Cl (ug/L)	-	0.343878	0.343878
Organic Chemical - Ct (ug/L)	-	0.345937	0.345937
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.994047	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00595335	0.00595335
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.28	3002.63
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.861112	0.862706
Organic Chemical - Cl (ug/L)	0.26685	0.267047
Organic Chemical - Ct (ug/L)	0.287106	0.287317
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.929449	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507	0.0705507
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.91	6.00191
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	8.25171E-05	1.72199	0.00172372
Organic Chemical - Cl (ug/L)	-	0.266933	0.266933
Organic Chemical - Ct (ug/L)	-	0.287194	0.287194
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.929449	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0705507	0.0705507
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0200976	0.0201126
Organic Chemical - Cl (ug/L)	0.00669402	0.00669153
Organic Chemical - Ct (ug/L)	0.00670083	0.00669834
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.998983	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657	0.00101657
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00016926	0.0400006	4.00407E-05
Organic Chemical - Cl (ug/L)	-	0.0066646	0.0066646
Organic Chemical - Ct (ug/L)	-	0.00667138	0.00667138
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.998983	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00101657	0.00101657
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Acenaphthene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.309245	0.30958
Organic Chemical - Cl (ug/L)	0.101711	0.101707
Organic Chemical - Ct (ug/L)	0.103107	0.103103
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.986459	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411	0.0135411
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00219509	0.61601	0.000616627
Organic Chemical - Cl (ug/L)	-	0.101348	0.101348
Organic Chemical - Ct (ug/L)	-	0.102739	0.102739
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.986459	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0135411	0.0135411
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Acenaphthylene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.310385	0.310731
Organic Chemical - Cl (ug/L)	0.101777	0.101777
Organic Chemical - Ct (ug/L)	0.103487	0.103487
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.983477	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234	0.0165234
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0019404	0.618553	0.000619172
Organic Chemical - Cl (ug/L)	-	0.101459	0.101459
Organic Chemical - Ct (ug/L)	-	0.103163	0.103163
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.983477	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0165234	0.0165234
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Fluorene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.240785	0.241053
Organic Chemical - Cl (ug/L)	0.0787495	0.0787493
Organic Chemical - Ct (ug/L)	0.0802813	0.080281
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.98092	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799	0.0190799
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0015622	0.479793	0.000480274
Organic Chemical - Cl (ug/L)	-	0.078494	0.078494
Organic Chemical - Ct (ug/L)	-	0.0800208	0.0800208
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.98092	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0190799	0.0190799
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Anthracene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.389056	0.389525
Organic Chemical - Cl (ug/L)	0.126199	0.12621
Organic Chemical - Ct (ug/L)	0.129717	0.129728
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.972878	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219	0.0271219
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00237306	0.775426	0.000776202
Organic Chemical - Cl (ug/L)	-	0.125819	0.125819
Organic Chemical - Ct (ug/L)	-	0.129327	0.129327
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.972878	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0271219	0.0271219
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Phenanthrene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.27	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.384801	0.385268
Organic Chemical - Cl (ug/L)	0.124774	0.124786
Organic Chemical - Ct (ug/L)	0.128299	0.128311
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.972527	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729	0.0274729
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.86	6.00186
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.0019229	0.767374	0.000768142
Organic Chemical - Cl (ug/L)	-	0.124468	0.124468
Organic Chemical - Ct (ug/L)	-	0.127984	0.127984
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.972527	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0274729	0.0274729
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Fluoranthene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.28	3002.63
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.588899	0.589903
Organic Chemical - Cl (ug/L)	0.180118	0.180224
Organic Chemical - Ct (ug/L)	0.196347	0.196462
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.917347	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653	0.082653
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.91	6.00191
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.00104332	1.17656	0.00117774
Organic Chemical - Cl (ug/L)	-	0.180009	0.180009
Organic Chemical - Ct (ug/L)	-	0.196227	0.196227
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.917347	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.082653	0.082653
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Contaminant : Pyrene

Incoming Stream	**SC-A_eff**	**SC-B_eff**
Flow Rate (m3/d)	2999.28	3002.62
Total Suspended Solids (mg/L)	10	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.429333	0.429965
Organic Chemical - Cl (ug/L)	0.133294	0.133342
Organic Chemical - Ct (ug/L)	0.143145	0.143196
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.931181	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192	0.0688192
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Sand Filter_air**	**Sand Filter_eff**	**BW_waste**
Flow Rate (m3/d)	Infinite	5995.89	6.0019
Total Suspended Solids (mg/L)	-	10	10
Suspended Solids Mass (g/d)	-	-	-
Volatile SS Fraction (-)	-	0.53	0.53
Wastewater DOC (mg/L)	-	0	0
Oil/Grease (mg/L)	-	0	0
Organic Chemical Mass (g/d)	0.000641916	0.857787	0.000858645
Organic Chemical - Cl (ug/L)	-	0.133217	0.133217
Organic Chemical - Ct (ug/L)	-	0.143062	0.143062
Metal - Cl (ug/L)	-	0	0
Metal - Ct (ug/L)	-	-	-
Metal Mass (g/d)	-	-	-
Precipitated Metal (mg/L)	-	0	0
Powdered Activated Carbon (mg/L)	-	0	0
Temperature (deg C)	-	25	25
MKp (L/g)	-	0	0
Solubility (mg/L)	-	0	0
pH (-)	-	7	7
Fraction of Soluble Chemical (-)	-	0.931181	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0688192	0.0688192
Fraction of Sorbed Chemical - Oil (-)	-	0	0
Fraction of Sorbed Chemical - DOC (-)	-	0	0
Fraction of Sorbed Chemical - PAC (-)	-	0	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr
Mass Transfer Coefficient for Stripping	0	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.0015482	%
Contribution from Surface Volatilization	0.0015482	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0325128	g/d
Contribution from Surface Volatilization	0.0325128	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	0.000065008	%
Contribution from Surface Volatilization	0.000065008	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	5.85081E-05	g/d
Contribution from Surface Volatilization	5.85081E-05	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.00280518	%
Contribution from Surface Volatilization	0.00280518	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0839885	g/d
Contribution from Surface Volatilization	0.0839885	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.00140885	%
Contribution from Surface Volatilization	0.00140885	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00371943	g/d
Contribution from Surface Volatilization	0.00371943	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.00522173	%
Contribution from Surface Volatilization	0.00522173	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0150388	g/d
Contribution from Surface Volatilization	0.0150388	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.03719	%
Contribution from Surface Volatilization	0.03719	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.194135	g/d
Contribution from Surface Volatilization	0.194135	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00250261	%
Contribution from Surface Volatilization	0.00250261	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00795843	g/d
Contribution from Surface Volatilization	0.00795843	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.000137526	%
Contribution from Surface Volatilization	0.000137526	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	8.25171E-05	g/d
Contribution from Surface Volatilization	8.25171E-05	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.0235079	%
Contribution from Surface Volatilization	0.0235079	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.00016926	g/d
Contribution from Surface Volatilization	0.00016926	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00365842	%
Contribution from Surface Volatilization	0.00365842	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.00219509	g/d
Contribution from Surface Volatilization	0.00219509	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00323395	%
Contribution from Surface Volatilization	0.00323395	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.0019404	g/d
Contribution from Surface Volatilization	0.0019404	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.00260363	%
Contribution from Surface Volatilization	0.00260363	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.0015622	g/d
Contribution from Surface Volatilization	0.0015622	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.00395504	%
Contribution from Surface Volatilization	0.00395504	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.00237306	g/d
Contribution from Surface Volatilization	0.00237306	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00320478	%
Contribution from Surface Volatilization	0.00320478	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.0019229	g/d
Contribution from Surface Volatilization	0.0019229	g/d
Biodegradation	0	g/d

Contaminant : Fluoranthene

Total Air Emissions	0.00173883	%
Contribution from Surface Volatilization	0.00173883	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

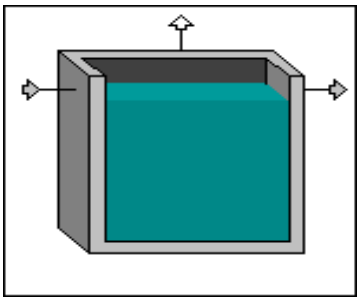
Total Air Emissions	0.00104332	g/d
Contribution from Surface Volatilization	0.00104332	g/d
Biodegradation	0	g/d

Contaminant : Pyrene

Total Air Emissions	0.00106984	%
Contribution from Surface Volatilization	0.00106984	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.000641916	g/d
Contribution from Surface Volatilization	0.000641916	g/d
Biodegradation	0	g/d

WWTP - Sump (T-59712)



Input Parameters

Data Entry

Liquid Depth		7.3	m
Surface Area		24.09	m2
VSS to SS Ratio	-		%
Removal Efficiency - Wastewater DOC		0	%
Covered	false		
Ventilation Rate	-		
Local pH value	-		

Advanced

Water Surface Covered with Oil		0	%
Oil Layer Mass Transfer Coefficent	Hydromantis Method		

Output Data

Contaminant : Benzene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0539964	0.00784532
Organic Chemical - Cl (ug/L)	1.12537	1.30551
Organic Chemical - Ct (ug/L)	1.27818	1.30715
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.880449	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	0.119551	0.00125452
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00614042	0.0557006
Organic Chemical - Cl (ug/L)	-	1.03169
Organic Chemical - Ct (ug/L)	-	1.15451
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.893616
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.106384
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944	m/hr

Contaminant : Phenol

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.00140769	0.00019318
Organic Chemical - Cl (ug/L)	0.0315679	0.0321701
Organic Chemical - Ct (ug/L)	0.0333223	0.0321866
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.947352	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	0.0526483	0.000513836
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	1.36349E-05	0.00158722
Organic Chemical - Cl (ug/L)	-	0.0313699
Organic Chemical - Ct (ug/L)	-	0.0328984
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.953539
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0464609
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr

Contaminant : Toluene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.176854	0.0209857
Organic Chemical - Cl (ug/L)	3.21269	3.48675
Organic Chemical - Ct (ug/L)	4.1864	3.49653
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.767413	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	0.232587	0.00279586
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.0170434	0.180794
Organic Chemical - Cl (ug/L)	-	2.96061
Organic Chemical - Ct (ug/L)	-	3.74731
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.790061
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.209939
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697	m/hr

Contaminant : Ethylbenzene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.009769	0.000956007
Organic Chemical - Cl (ug/L)	0.151033	0.158506
Organic Chemical - Ct (ug/L)	0.231247	0.159285
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.653123	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	0.346877	0.00488908
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000788063	0.00993683
Organic Chemical - Cl (ug/L)	-	0.140525
Organic Chemical - Ct (ug/L)	-	0.205961
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.682292
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.317708
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr

Contaminant : Xylene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0383095	0.003753
Organic Chemical - Cl (ug/L)	0.592318	0.62225
Organic Chemical - Ct (ug/L)	0.906844	0.625307
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.653164	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	0.346836	0.00488819
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00317648	0.0388855
Organic Chemical - Cl (ug/L)	-	0.549946
Organic Chemical - Ct (ug/L)	-	0.80598
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.682332
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.317668
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr

Contaminant : Styrene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.458326	0.0494626
Organic Chemical - Cl (ug/L)	7.71214	8.21031
Organic Chemical - Ct (ug/L)	10.8493	8.2412
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.710843	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	0.289157	0.00374889
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.0403554	0.467424
Organic Chemical - Cl (ug/L)	-	7.14137
Organic Chemical - Ct (ug/L)	-	9.6883
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.737113
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.262887
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr

Contaminant : Naphthalene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0229903	0.00207627
Organic Chemical - Cl (ug/L)	0.330346	0.343878
Organic Chemical - Ct (ug/L)	0.544215	0.345937
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.607013	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	0.392987	0.00595335
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00170818	0.0233581
Organic Chemical - Cl (ug/L)	-	0.30884
Organic Chemical - Ct (ug/L)	-	0.484143
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.637911
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.362089
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2451	6.00191
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.103806	0.00172372
Organic Chemical - Cl (ug/L)	0.266932	0.266933
Organic Chemical - Ct (ug/L)	2.45723	0.287194
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.108631	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	0.891369	0.0705507
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.247
Total Suspended Solids (mg/L)	-	947.768
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	1.97163E-05	0.105507
Organic Chemical - Cl (ug/L)	-	0.266875
Organic Chemical - Ct (ug/L)	-	2.1868
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.122039
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.877961
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.000263713	4.00407E-05
Organic Chemical - Cl (ug/L)	0.00562384	0.0066646
Organic Chemical - Ct (ug/L)	0.00624248	0.00667138
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.900899	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	0.0991012	0.00101657
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	3.12643E-05	0.000272485
Organic Chemical - Cl (ug/L)	-	0.00515102
Organic Chemical - Ct (ug/L)	-	0.00564781
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.912039
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0879614
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr

Contaminant : Acenaphthene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0104755	0.000616627
Organic Chemical - Cl (ug/L)	0.0998322	0.101348
Organic Chemical - Ct (ug/L)	0.247972	0.102739
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.402595	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	0.597405	0.0135411
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000494142	0.0105979
Organic Chemical - Cl (ug/L)	-	0.0954639
Organic Chemical - Ct (ug/L)	-	0.219662
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.434594
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.565406
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr

Contaminant : Acenaphthylene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0119384	0.000619172
Organic Chemical - Cl (ug/L)	0.100348	0.101459
Organic Chemical - Ct (ug/L)	0.2826	0.103163
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.35509	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	0.64491	0.0165234
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000442724	0.0121147
Organic Chemical - Cl (ug/L)	-	0.0968625
Organic Chemical - Ct (ug/L)	-	0.251101
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.385751
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.614249
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551	m/hr

Contaminant : Fluorene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0101942	0.000480274
Organic Chemical - Cl (ug/L)	0.0777758	0.078494
Organic Chemical - Ct (ug/L)	0.241311	0.0800208
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.322305	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	0.677695	0.0190799
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000357683	0.0103166
Organic Chemical - Cl (ug/L)	-	0.0752004
Organic Chemical - Ct (ug/L)	-	0.213833
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.351679
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.648321
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr

Contaminant : Anthracene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0212247	0.000776202
Organic Chemical - Cl (ug/L)	0.125179	0.125819
Organic Chemical - Ct (ug/L)	0.502421	0.129327
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.249152	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	0.750848	0.0271219
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000550231	0.0214503
Organic Chemical - Cl (ug/L)	-	0.12207
Organic Chemical - Ct (ug/L)	-	0.4446
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.27456
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.72544
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr

Contaminant : Phenanthrene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.2448	6.00186
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0212193	0.000768142
Organic Chemical - Cl (ug/L)	0.12391	0.124468
Organic Chemical - Ct (ug/L)	0.502294	0.127984
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.246687	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	0.753313	0.0274729
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2462
Total Suspended Solids (mg/L)	-	947.767
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000448229	0.0215389
Organic Chemical - Cl (ug/L)	-	0.121402
Organic Chemical - Ct (ug/L)	-	0.446436
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.271935
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.728065
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597	m/hr

Contaminant : Fluoranthene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.245	6.00191
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0816777	0.00117774
Organic Chemical - Cl (ug/L)	0.180024	0.180009
Organic Chemical - Ct (ug/L)	1.93343	0.196227
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.0931115	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	0.906888	0.082653
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2469
Total Suspended Solids (mg/L)	-	947.768
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000248604	0.0826036
Organic Chemical - Cl (ug/L)	-	0.179477
Organic Chemical - Ct (ug/L)	-	1.7121
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.104829
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.895171
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr

Contaminant : Pyrene

Incoming Stream	**DW centrifuge_filtrate**	**BW_waste**
Flow Rate (m3/d)	42.245	6.0019
Total Suspended Solids (mg/L)	1081	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	0.53
Wastewater DOC (mg/L)	0	0
Oil/Grease (mg/L)	0	0
Organic Chemical Mass (g/d)	0.0505843	0.000858645
Organic Chemical - Cl (ug/L)	0.133205	0.133217
Organic Chemical - Ct (ug/L)	1.1974	0.143062
Metal - Cl (ug/L)	0	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	0
Powdered Activated Carbon (mg/L)	0	0
Temperature (deg C)	25	25
MKp (L/g)	0	0
Solubility (mg/L)	0	0
pH (-)	7	7
Fraction of Soluble Chemical (-)	0.111245	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	0.888755	0.0688192
Fraction of Sorbed Chemical - Oil (-)	0	0
Fraction of Sorbed Chemical - DOC (-)	0	0
Fraction of Sorbed Chemical - PAC (-)	0	0

Outgoing Stream	**Waste Sum_air**	**Waste Sump_eff**
Flow Rate (m3/d)	Infinite	48.2467
Total Suspended Solids (mg/L)	-	947.768
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000152937	0.0512885
Organic Chemical - Cl (ug/L)	-	0.132806
Organic Chemical - Ct (ug/L)	-	1.06304
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.12493
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.87507
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.000292396	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00614042	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	1.51497E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.36349E-05	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.000569242	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0170434	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.000298504	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000788063	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.00110293	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00317648	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.0077308	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0403554	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.000537154	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00170818	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	0.00003286	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	1.97163E-05	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.00434219	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	3.12643E-05	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.000823557	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000494142	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.000737862	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000442724	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.000596128	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000357683	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.000917038	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000550231	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.000747036	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000448229	g/d
Biodegradation	0	g/d

Contaminant : Fluoranthene

Total Air Emissions	0.000414333	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000248604	g/d
Biodegradation	0	g/d

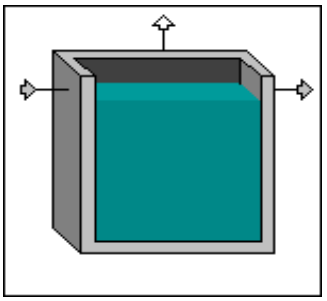
Contaminant : Pyrene

Total Air Emissions	0.000254891	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	0.000152937	g/d
Biodegradation	0	g/d

WWTP - Treated Effluent Sump (T-59717)



Input Parameters

Data Entry

Liquid Depth		4.3	m
Surface Area		57.4	m2
VSS to SS Ratio	-		%
Removal Efficiency - Wastewater DOC		0	%
Covered	false		
Ventilation Rate	-		
Local pH value	-		

Advanced

Water Surface Covered with Oil		0	%
Oil Layer Mass Transfer Coefficent	Hydromantis Method		

Output Data

Contaminant : Benzene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	7.83747
Organic Chemical - Cl (ug/L)	1.30551
Organic Chemical - Ct (ug/L)	1.30715
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.0184706	7.819
Organic Chemical - Cl (ug/L)	-	1.30243
Organic Chemical - Ct (ug/L)	-	1.30407
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00125452
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0102944 m/hr

Contaminant : Phenol

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.192986
Organic Chemical - Cl (ug/L)	0.0321701
Organic Chemical - Ct (ug/L)	0.0321866
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	3.33114E-05	0.192953
Organic Chemical - Cl (ug/L)	-	0.0321645
Organic Chemical - Ct (ug/L)	-	0.0321811
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.000513836
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000752751	m/hr

Contaminant : Toluene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	20.9647
Organic Chemical - Cl (ug/L)	3.48675
Organic Chemical - Ct (ug/L)	3.49653
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.0477179	20.917
Organic Chemical - Cl (ug/L)	-	3.47882
Organic Chemical - Ct (ug/L)	-	3.48857
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00279586
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00995697 m/hr

Contaminant : Ethylbenzene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.955051
Organic Chemical - Cl (ug/L)	0.158506
Organic Chemical - Ct (ug/L)	0.159285
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00211332	0.952938
Organic Chemical - Cl (ug/L)	-	0.158156
Organic Chemical - Ct (ug/L)	-	0.158933
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00488908
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00969969	m/hr

Contaminant : Xylene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	3.74925
Organic Chemical - Cl (ug/L)	0.62225
Organic Chemical - Ct (ug/L)	0.625307
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00854426	3.74071
Organic Chemical - Cl (ug/L)	-	0.620832
Organic Chemical - Ct (ug/L)	-	0.623882
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00488819
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00999027	m/hr

Contaminant : Styrene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	49.4131
Organic Chemical - Cl (ug/L)	8.21031
Organic Chemical - Ct (ug/L)	8.2412
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.110302	49.3028
Organic Chemical - Cl (ug/L)	-	8.19198
Organic Chemical - Ct (ug/L)	-	8.22281
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00374889
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00977401	m/hr

Contaminant : Naphthalene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.07419
Organic Chemical - Cl (ug/L)	0.343878
Organic Chemical - Ct (ug/L)	0.345937
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.004522	2.06967
Organic Chemical - Cl (ug/L)	-	0.343128
Organic Chemical - Ct (ug/L)	-	0.345183
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00595335
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00956646	m/hr

Contaminant : Dibutylphthalate

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.91
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.72199
Organic Chemical - Cl (ug/L)	0.266933
Organic Chemical - Ct (ug/L)	0.287194
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.91
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	4.69876E-05	1.72194
Organic Chemical - Cl (ug/L)	-	0.266925
Organic Chemical - Ct (ug/L)	-	0.287187
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0705507
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.000127782	m/hr

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0400006
Organic Chemical - Cl (ug/L)	0.0066646
Organic Chemical - Ct (ug/L)	0.00667138
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	9.61522E-05	0.0399045
Organic Chemical - Cl (ug/L)	-	0.00664858
Organic Chemical - Ct (ug/L)	-	0.00665534
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.00101657
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.010498	m/hr

Contaminant : Acenaphthene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.61601
Organic Chemical - Cl (ug/L)	0.101348
Organic Chemical - Ct (ug/L)	0.102739
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00124745	0.614763
Organic Chemical - Cl (ug/L)	-	0.101143
Organic Chemical - Ct (ug/L)	-	0.102531
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0135411
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00895291	m/hr

Contaminant : Acenaphthylene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.618553
Organic Chemical - Cl (ug/L)	0.101459
Organic Chemical - Ct (ug/L)	0.103163
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00110298	0.61745
Organic Chemical - Cl (ug/L)	-	0.101278
Organic Chemical - Ct (ug/L)	-	0.102979
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0165234
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00790551 m/hr

Contaminant : Fluorene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.479793
Organic Chemical - Cl (ug/L)	0.078494
Organic Chemical - Ct (ug/L)	0.0800208
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000887942	0.478905
Organic Chemical - Cl (ug/L)	-	0.0783488
Organic Chemical - Ct (ug/L)	-	0.0798727
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0190799
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00822677	m/hr

Contaminant : Anthracene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.775426
Organic Chemical - Cl (ug/L)	0.125819
Organic Chemical - Ct (ug/L)	0.129327
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00134898	0.774077
Organic Chemical - Cl (ug/L)	-	0.125601
Organic Chemical - Ct (ug/L)	-	0.129102
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0271219
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00779633	m/hr

Contaminant : Phenanthrene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.767374
Organic Chemical - Cl (ug/L)	0.124468
Organic Chemical - Ct (ug/L)	0.127984
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.86
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00109342	0.76628
Organic Chemical - Cl (ug/L)	-	0.124291
Organic Chemical - Ct (ug/L)	-	0.127802
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0274729
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00638597 m/hr

Contaminant : Fluoranthene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.91
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.17656
Organic Chemical - Cl (ug/L)	0.180009
Organic Chemical - Ct (ug/L)	0.196227
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.91
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.000593811	1.17597
Organic Chemical - Cl (ug/L)	-	0.179918
Organic Chemical - Ct (ug/L)	-	0.196128
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.082653
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.0023958	m/hr

Contaminant : Pyrene

Incoming Stream	**Sand Filter_eff**
Flow Rate (m3/d)	5995.89
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.857787
Organic Chemical - Cl (ug/L)	0.133217
Organic Chemical - Ct (ug/L)	0.143062
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Treated Sump_air**	**eff_0**
Flow Rate (m3/d)	Infinite	5995.89
Total Suspended Solids (mg/L)	-	10
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	-	0.53
Wastewater DOC (mg/L)	-	0
Oil/Grease (mg/L)	-	0
Organic Chemical Mass (g/d)	0.00036538	0.857421
Organic Chemical - Cl (ug/L)	-	0.13316
Organic Chemical - Ct (ug/L)	-	0.143001
Metal - Cl (ug/L)	-	0
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	-	0
Powdered Activated Carbon (mg/L)	-	0
Temperature (deg C)	-	25
MKp (L/g)	-	0
Solubility (mg/L)	-	0
pH (-)	-	7
Fraction of Soluble Chemical (-)	-	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	-	0.0688192
Fraction of Sorbed Chemical - Oil (-)	-	0
Fraction of Sorbed Chemical - DOC (-)	-	0
Fraction of Sorbed Chemical - PAC (-)	-	0

Process Values

Mass Transfer Coefficient for Surface Volatilization	0.00199181	m/hr

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.000879537	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0184706	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	3.70121E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	3.33114E-05	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.00159376	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0477179	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.000800488	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00211332	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.00296671	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00854426	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.0211304	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.110302	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00142199	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.004522	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	7.83114E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	4.69876E-05	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.0133543	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	9.61522E-05	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00207905	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00124745	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00183827	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00110298	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.00147988	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000887942	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.00224826	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00134898	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00182234	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00109342	g/d
Biodegradation	0	g/d

Contaminant : Fluoranthene

Total Air Emissions	0.000989669	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000593811	g/d
Biodegradation	0	g/d

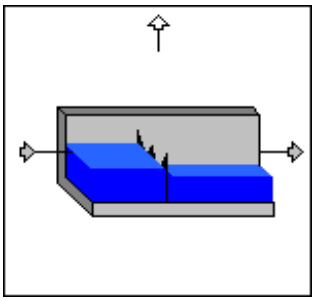
Contaminant : Pyrene

Total Air Emissions	0.000608957	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	0.00036538	g/d
Biodegradation	0	g/d

WWTP - Outfall



Input Parameters

Data Entry		
Weir Length	10	m
Waterfall Height	0.2	m
Local pH value	-	
Advanced		
Kg/Kl Ratio for Weirs	100	
Use Pincince Relationship from	Primary Clarifier	

Output Data

Contaminant : Benzene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	7.819
Organic Chemical - Cl (ug/L)	1.30243
Organic Chemical - Ct (ug/L)	1.30407
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.998745
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	7.63988	0.17912
Organic Chemical - Cl (ug/L)	1.27259	-
Organic Chemical - Ct (ug/L)	1.27419	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.998745	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00125452	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Phenol

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.192953
Organic Chemical - Cl (ug/L)	0.0321645
Organic Chemical - Ct (ug/L)	0.0321811
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.999486
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.192928	2.47731E-05
Organic Chemical - Cl (ug/L)	0.0321604	-
Organic Chemical - Ct (ug/L)	0.0321769	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.999486	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.000513836	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Toluene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	20.917
Organic Chemical - Cl (ug/L)	3.47882
Organic Chemical - Ct (ug/L)	3.48857
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.997204
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	20.4827	0.434258
Organic Chemical - Cl (ug/L)	3.40659	-
Organic Chemical - Ct (ug/L)	3.41614	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.997204	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00279586	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Ethylbenzene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.952938
Organic Chemical - Cl (ug/L)	0.158156
Organic Chemical - Ct (ug/L)	0.158933
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.995111
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**	
Flow Rate (m3/d)	5995.86	Infinite	
Total Suspended Solids (mg/L)	10	-	
Suspended Solids Mass (g/d)	-	-	
Volatile SS Fraction (-)	0.53	-	
Wastewater DOC (mg/L)	0	-	
Oil/Grease (mg/L)	0	-	
Organic Chemical Mass (g/d)	0.934659		0.0182789
Organic Chemical - Cl (ug/L)	0.155122	-	
Organic Chemical - Ct (ug/L)	0.155884	-	
Metal - Cl (ug/L)	0	-	
Metal - Ct (ug/L)	-	-	
Metal Mass (g/d)	-	-	
Precipitated Metal (mg/L)	0	-	
Powdered Activated Carbon (mg/L)	0	-	
Temperature (deg C)	25	-	
MKp (L/g)	0	-	
Solubility (mg/L)	0	-	
pH (-)	7	-	
Fraction of Soluble Chemical (-)	0.995111	-	
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488908	-	
Fraction of Sorbed Chemical - Oil (-)	0	-	
Fraction of Sorbed Chemical - DOC (-)	0	-	
Fraction of Sorbed Chemical - PAC (-)	0	-	

Contaminant : Xylene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	3.74071
Organic Chemical - Cl (ug/L)	0.620832
Organic Chemical - Ct (ug/L)	0.623882
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.995112
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	3.66297	0.077742
Organic Chemical - Cl (ug/L)	0.60793	-
Organic Chemical - Ct (ug/L)	0.610916	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.995112	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00488819	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Styrene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	49.3028
Organic Chemical - Cl (ug/L)	8.19198
Organic Chemical - Ct (ug/L)	8.22281
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.996251
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	48.3758	0.92697
Organic Chemical - Cl (ug/L)	8.03796	-
Organic Chemical - Ct (ug/L)	8.06821	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.996251	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00374889	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Naphthalene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	2.06967
Organic Chemical - Cl (ug/L)	0.343128
Organic Chemical - Ct (ug/L)	0.345183
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.994047
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	2.04076	0.0289067
Organic Chemical - Cl (ug/L)	0.338336	-
Organic Chemical - Ct (ug/L)	0.340362	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.994047	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00595335	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Dibutylphthalate

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.91
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.72194
Organic Chemical - Cl (ug/L)	0.266925
Organic Chemical - Ct (ug/L)	0.287187
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.929449
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.91	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.72192	2.46167E-05
Organic Chemical - Cl (ug/L)	0.266922	-
Organic Chemical - Ct (ug/L)	0.287183	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.929449	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0705507	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Chloroform (Trichloromethane)

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.0399045
Organic Chemical - Cl (ug/L)	0.00664858
Organic Chemical - Ct (ug/L)	0.00665534
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.998983
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.0389439	0.000960581
Organic Chemical - Cl (ug/L)	0.00648853	-
Organic Chemical - Ct (ug/L)	0.00649514	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.998983	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.00101657	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Acenaphthene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.614763
Organic Chemical - Cl (ug/L)	0.101143
Organic Chemical - Ct (ug/L)	0.102531
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.986459
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.608957	0.0058062
Organic Chemical - Cl (ug/L)	0.100188	-
Organic Chemical - Ct (ug/L)	0.101563	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.986459	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0135411	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Acenaphthylene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.61745
Organic Chemical - Cl (ug/L)	0.101278
Organic Chemical - Ct (ug/L)	0.102979
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.983477
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.614271	0.00317929
Organic Chemical - Cl (ug/L)	0.100756	-
Organic Chemical - Ct (ug/L)	0.102449	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.983477	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0165234	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Fluorene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.478905
Organic Chemical - Cl (ug/L)	0.0783488
Organic Chemical - Ct (ug/L)	0.0798727
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.98092
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.476084	0.00282146
Organic Chemical - Cl (ug/L)	0.0778872	-
Organic Chemical - Ct (ug/L)	0.0794021	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.98092	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0190799	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Anthracene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.774077
Organic Chemical - Cl (ug/L)	0.125601
Organic Chemical - Ct (ug/L)	0.129102
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.972878
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.770497	0.00358071
Organic Chemical - Cl (ug/L)	0.12502	-
Organic Chemical - Ct (ug/L)	0.128505	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.972878	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0271219	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Phenanthrene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.86
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.76628
Organic Chemical - Cl (ug/L)	0.124291
Organic Chemical - Ct (ug/L)	0.127802
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.972527
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.86	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.764455	0.00182528
Organic Chemical - Cl (ug/L)	0.123994	-
Organic Chemical - Ct (ug/L)	0.127497	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.972527	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0274729	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Fluoranthene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.91
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	1.17597
Organic Chemical - Cl (ug/L)	0.179918
Organic Chemical - Ct (ug/L)	0.196128
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.917347
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.91	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	1.17549	0.00047419
Organic Chemical - Cl (ug/L)	0.179845	-
Organic Chemical - Ct (ug/L)	0.196049	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.917347	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.082653	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Contaminant : Pyrene

Incoming Stream	**eff_0**
Flow Rate (m3/d)	5995.89
Total Suspended Solids (mg/L)	10
Suspended Solids Mass (g/d)	-
Volatile SS Fraction (-)	0.53
Wastewater DOC (mg/L)	0
Oil/Grease (mg/L)	0
Organic Chemical Mass (g/d)	0.857421
Organic Chemical - Cl (ug/L)	0.13316
Organic Chemical - Ct (ug/L)	0.143001
Metal - Cl (ug/L)	0
Metal - Ct (ug/L)	-
Metal Mass (g/d)	-
Precipitated Metal (mg/L)	0
Powdered Activated Carbon (mg/L)	0
Temperature (deg C)	25
MKp (L/g)	0
Solubility (mg/L)	0
pH (-)	7
Fraction of Soluble Chemical (-)	0.931181
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192
Fraction of Sorbed Chemical - Oil (-)	0
Fraction of Sorbed Chemical - DOC (-)	0
Fraction of Sorbed Chemical - PAC (-)	0

Outgoing Stream	**Outfall_Ohio River**	**Outfall_air**
Flow Rate (m3/d)	5995.89	Infinite
Total Suspended Solids (mg/L)	10	-
Suspended Solids Mass (g/d)	-	-
Volatile SS Fraction (-)	0.53	-
Wastewater DOC (mg/L)	0	-
Oil/Grease (mg/L)	0	-
Organic Chemical Mass (g/d)	0.857143	0.000278527
Organic Chemical - Cl (ug/L)	0.133117	-
Organic Chemical - Ct (ug/L)	0.142955	-
Metal - Cl (ug/L)	0	-
Metal - Ct (ug/L)	-	-
Metal Mass (g/d)	-	-
Precipitated Metal (mg/L)	0	-
Powdered Activated Carbon (mg/L)	0	-
Temperature (deg C)	25	-
MKp (L/g)	0	-
Solubility (mg/L)	0	-
pH (-)	7	-
Fraction of Soluble Chemical (-)	0.931181	-
Fraction of Sorbed Chemical - Organic Solid (-)	0.0688192	-
Fraction of Sorbed Chemical - Oil (-)	0	-
Fraction of Sorbed Chemical - DOC (-)	0	-
Fraction of Sorbed Chemical - PAC (-)	0	-

Fate Summary

Contaminant : Benzene

Total Air Emissions	0.00852939	%
Contribution from Weir Volatilization	0.00852939	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	0.17912	g/d
Contribution from Weir Volatilization	0.17912	g/d
Biodegradation	0	g/d

Contaminant : Phenol

Total Air Emissions	2.75252E-05	%
Contribution from Weir Volatilization	2.75252E-05	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	2.47731E-05	g/d
Contribution from Weir Volatilization	2.47731E-05	g/d
Biodegradation	0	g/d

Contaminant : Toluene

Total Air Emissions	0.0145041	%
Contribution from Weir Volatilization	0.0145041	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	0.434258	g/d
Contribution from Weir Volatilization	0.434258	g/d
Biodegradation	0	g/d

Contaminant : Ethylbenzene

Total Air Emissions	0.00692371	%
Contribution from Weir Volatilization	0.00692371	%
Biodegradation	0	%

* as a percentage of the total contaminant in the system

Total Air Emissions	0.0182789	g/d
Contribution from Weir Volatilization	0.0182789	g/d
Biodegradation	0	g/d

Contaminant : Xylene

Total Air Emissions	0.0269933	%
Contribution from Weir Volatilization	0.0269933	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.077742	g/d
Contribution from Weir Volatilization	0.077742	g/d
Biodegradation	0	g/d

Contaminant : Styrene

Total Air Emissions	0.177578	%
Contribution from Weir Volatilization	0.177578	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.92697	g/d
Contribution from Weir Volatilization	0.92697	g/d
Biodegradation	0	g/d

Contaminant : Naphthalene

Total Air Emissions	0.00909001	%
Contribution from Weir Volatilization	0.00909001	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.0289067	g/d
Contribution from Weir Volatilization	0.0289067	g/d
Biodegradation	0	g/d

Contaminant : Dibutylphthalate

Total Air Emissions	4.10272E-05	%
Contribution from Weir Volatilization	4.10272E-05	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	2.46167E-05	g/d
Contribution from Weir Volatilization	2.46167E-05	g/d
Biodegradation	0	g/d

Contaminant : Chloroform (Trichloromethane)

Total Air Emissions	0.133412	%
Contribution from Weir Volatilization	0.133412	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.000960581	g/d
Contribution from Weir Volatilization	0.000960581	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthene

Total Air Emissions	0.00967684	%
Contribution from Weir Volatilization	0.00967684	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.0058062	g/d
Contribution from Weir Volatilization	0.0058062	g/d
Biodegradation	0	g/d

Contaminant : Acenaphthylene

Total Air Emissions	0.00529872	%
Contribution from Weir Volatilization	0.00529872	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.00317929	g/d
Contribution from Weir Volatilization	0.00317929	g/d
Biodegradation	0	g/d

Contaminant : Fluorene

Total Air Emissions	0.00470237	%
Contribution from Weir Volatilization	0.00470237	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		

Total Air Emissions	0.00282146	g/d
Contribution from Weir Volatilization	0.00282146	g/d
Biodegradation	0	g/d

Contaminant : Anthracene

Total Air Emissions	0.00596776	%
Contribution from Weir Volatilization	0.00596776	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00358071	g/d
Contribution from Weir Volatilization	0.00358071	g/d
Biodegradation	0	g/d

Contaminant : Phenanthrene

Total Air Emissions	0.00304208	%
Contribution from Weir Volatilization	0.00304208	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00182528	g/d
Contribution from Weir Volatilization	0.00182528	g/d
Biodegradation	0	g/d

Contaminant : Fluoranthene

Total Air Emissions	0.000790304	%
Contribution from Weir Volatilization	0.000790304	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.00047419	g/d
Contribution from Weir Volatilization	0.00047419	g/d
Biodegradation	0	g/d

Contaminant : Pyrene

Total Air Emissions	0.000464205	%
Contribution from Weir Volatilization	0.000464205	%
Biodegradation	0	%
* as a percentage of the total contaminant in the system		
Total Air Emissions	0.000278527	g/d
Contribution from Weir Volatilization	0.000278527	g/d
Biodegradation	0	g/d

Attachment 2

Request No. 21.b Information

Source ID = 502	Wastewater Treatment Plant					
	Toxchem Output Emissions	Annualized Emissions				
Pollutant	lb/hr	lb/hr	hr/year	tpy	Calculation/ Estimation	Emission Factor Reference
VOC	0.065	0.065	8,760	0.28	Emissions model	Toxchem
Benzene	8.41E-03	8.41E-03	8,760	3.68E-02	Emissions model	Toxchem
Phenol	1.28E-07	1.28E-07	8,760	5.59E-07	Emissions model	Toxchem
Toluene	2.58E-02	2.58E-02	8,760	1.13E-01	Emissions model	Toxchem
Ethylbenzene	1.35E-03	1.35E-03	8,760	5.91E-03	Emissions model	Toxchem
Xylene	3.70E-03	3.70E-03	8,760	1.62E-02	Emissions model	Toxchem
Styrene	2.53E-02	2.53E-02	8,760	1.11E-01	Emissions model	Toxchem
Naphthalene	2.10E-04	2.10E-04	8,760	9.20E-04	Emissions model	Toxchem
Dibutylphthalate	2.01E-07	2.01E-07	8,760	8.81E-07	Emissions model	Toxchem
Chloroform (Trichloromethane)	3.33E-05	3.33E-05	8,760	1.46E-04	Emissions model	Toxchem
Acenaphthene	3.23E-05	3.23E-05	8,760	1.42E-04	Emissions model	Toxchem
Acenaphthylene	1.64E-05	1.64E-05	8,760	7.19E-05	Emissions model	Toxchem
Fluorene	1.32E-05	1.32E-05	8,760	5.76E-05	Emissions model	Toxchem
Anthracene	1.62E-05	1.62E-05	8,760	7.10E-05	Emissions model	Toxchem
Phenanthrene	8.45E-06	8.45E-06	8,760	3.70E-05	Emissions model	Toxchem
Fluoranthene	2.77E-06	2.77E-06	8,760	1.21E-05	Emissions model	Toxchem
Pyrene	1.65E-06	1.65E-06	8,760	7.24E-06	Emissions model	Toxchem

The WWTP includes two Flow Equalization and Oil Removal (FEOR) Tanks, a Recovered Oil Storage Tank, two temporary Induced Nitrogen Flotation (INF) Vessels, two Biotreater Aeration Tanks, two Secondary Clarifiers, two Biosludge Holding Tanks, a Centrifuge, a Sand Filter, a Sump (for centrate and sand filter backwash), and a Treated Effluent Sump. The WWTP Permanent Controls Project proposes the installation of a Settlement Drum, two Dissolved Nitrogen Flotation (DNF) Units, a Float/Sludge Drum, and a Steam Stripper to replace the two temporary INF Vessels. The two FEOR Tanks and Recovered Oil Storage Tank vent to the Spent Caustic Thermal Oxidizer (SCTO); therefore, their emissions are not included in the table above. Additionally, the new Settlement Drum, two DNF Units, Float/Sludge Drum, and Steam Stripper will vent to the SCTO; therefore, their emissions are not included in the table. Lastly, the two temporary INF Vessels vent to the SCTO, and they will be removed after the successful commissioning of the WWTP Permanent Controls Project; therefore, their emissions are not included in the table.

Basis:

Emissions were modeled under worst-case conditions of dry weather flow. The Biotreater Aeration Tanks' inlet concentrations were based on actual sample data for the 1/10/23-3/31/24 time period, excluding ethylene manufacturing unit downtime and abnormal conditions.

Example Calculations:

0.28 tpy VOC = (0.065 lb/hr) x (8,760 hr/year) / (2,000 lb/ton)

Pollutant	Biotreater Aeration Tank A (lb/hr, avg.)	Biotreater Aeration Tank B (lb/hr, avg.)	Secondary Clarifier A (lb/hr, avg.)	Secondary Clarifier B (lb/hr, avg.)	Biosludge Holding Tank (T-59701A/B) (lb/hr, avg.)	Centrifuge (lb/hr, avg.)	Sand Filter (lb/hr, avg.)	Sump (T-59712) (lb/hr, avg.)	Treated Effluent Sump (T-59717) (lb/hr, avg.)	Outfall (lb/hr, avg.)	WWTP (lb/hr, avg.)
Benzene	4.18E-03	4.18E-03	9.40E-06	9.40E-06	2.05E-06	6.19E-09	2.99E-06	5.64E-07	1.70E-06	1.65E-05	8.41E-03
Phenol	4.31E-08	4.31E-08	1.27E-08	1.27E-08	4.20E-09	4.01E-14	5.37E-09	1.25E-09	3.06E-09	2.28E-09	1.28E-07
Toluene	1.28E-02	1.28E-02	2.39E-05	2.39E-05	5.67E-06	2.09E-08	7.72E-06	1.57E-06	4.38E-06	3.99E-05	2.58E-02
Ethylbenzene	6.73E-04	6.73E-04	1.04E-06	1.04E-06	2.59E-07	1.18E-09	3.42E-07	7.24E-08	1.94E-07	1.68E-06	1.35E-03
Xylene	1.84E-03	1.84E-03	4.27E-06	4.28E-06	1.05E-06	3.03E-09	1.38E-06	2.92E-07	7.85E-07	7.14E-06	3.70E-03
Styrene	1.25E-02	1.25E-02	5.41E-05	5.41E-05	1.33E-05	1.97E-08	1.78E-05	3.71E-06	1.01E-05	8.52E-05	2.53E-02
Naphthalene	1.01E-04	1.01E-04	2.09E-06	2.09E-06	5.60E-07	1.55E-10	7.31E-07	1.57E-07	4.15E-07	2.66E-06	2.10E-04
Dibutylphthalate	7.18E-08	7.18E-08	1.78E-08	1.78E-08	6.04E-09	7.82E-14	7.58E-09	1.81E-09	4.32E-09	2.26E-09	2.01E-07
Chloroform (Trichloromethane)	1.65E-05	1.65E-05	4.93E-08	4.94E-08	1.05E-08	2.34E-11	1.55E-08	2.87E-09	8.83E-09	8.82E-08	3.33E-05
Acenaphthene	1.51E-05	1.51E-05	5.46E-07	5.46E-07	1.58E-07	2.35E-11	2.02E-07	4.54E-08	1.15E-07	5.33E-07	3.23E-05
Acenaphthylene	7.38E-06	7.38E-06	4.56E-07	4.56E-07	1.40E-07	1.12E-11	1.78E-07	4.07E-08	1.01E-07	2.92E-07	1.64E-05
Fluorene	5.89E-06	5.89E-06	3.70E-07	3.70E-07	1.13E-07	8.88E-12	1.44E-07	3.29E-08	8.16E-08	2.59E-07	1.32E-05
Anthracene	7.11E-06	7.11E-06	5.53E-07	5.53E-07	1.73E-07	1.05E-11	2.18E-07	5.05E-08	1.24E-07	3.29E-07	1.62E-05
Phenanthrene	3.48E-06	3.48E-06	4.33E-07	4.33E-07	1.40E-07	4.76E-12	1.77E-07	4.12E-08	1.00E-07	1.68E-07	8.45E-06
Fluoranthene	1.01E-06	1.01E-06	2.27E-07	2.28E-07	7.64E-08	1.14E-12	9.58E-08	2.28E-08	5.45E-08	4.36E-08	2.77E-06
Pyrene	5.97E-07	5.97E-07	1.40E-07	1.40E-07	4.70E-08	6.62E-13	5.90E-08	1.40E-08	3.36E-08	2.56E-08	1.65E-06
Total	3.22E-02	3.22E-02	9.76E-05	9.76E-05	2.38E-05	5.13E-08	3.21E-05	6.61E-06	1.82E-05	1.55E-04	6.49E-02

Pollutant	Biotreater Aeration Tank A (tpy)	Biotreater Aeration Tank B (tpy)	Secondary Clarifier A (tpy)	Secondary Clarifier B (tpy)	Biosludge Holding Tank (T-59701A/B) (tpy)	Centrifuge (tpy)	Sand Filter (tpy)	Sump (T-59712) (tpy)	Treated Effluent Sump (T-59717) (tpy)	Outfall (tpy)	WWTP (tpy)
Benzene	1.83E-02	1.83E-02	4.12E-05	4.12E-05	8.99E-06	2.71E-08	1.31E-05	2.47E-06	7.43E-06	7.21E-05	3.68E-02
Phenol	1.89E-07	1.89E-07	5.57E-08	5.57E-08	1.84E-08	1.75E-13	2.35E-08	5.49E-09	1.34E-08	9.97E-09	5.59E-07
Toluene	5.62E-02	5.62E-02	1.05E-04	1.05E-04	2.48E-05	9.17E-08	3.38E-05	6.86E-06	1.92E-05	1.75E-04	1.13E-01
Ethylbenzene	2.95E-03	2.95E-03	4.57E-06	4.57E-06	1.14E-06	5.16E-09	1.50E-06	3.17E-07	8.50E-07	7.35E-06	5.91E-03
Xylene	8.06E-03	8.06E-03	1.87E-05	1.87E-05	4.59E-06	1.33E-08	6.05E-06	1.28E-06	3.44E-06	3.13E-05	1.62E-02
Styrene	5.49E-02	5.49E-02	2.37E-04	2.37E-04	5.85E-05	8.63E-08	7.81E-05	1.62E-05	4.44E-05	3.73E-04	1.11E-01
Naphthalene	4.41E-04	4.41E-04	9.15E-06	9.16E-06	2.45E-06	6.81E-10	3.20E-06	6.87E-07	1.82E-06	1.16E-05	9.20E-04
Dibutylphthalate	3.14E-07	3.15E-07	7.80E-08	7.80E-08	2.65E-08	3.42E-13	3.32E-08	7.93E-09	1.89E-08	9.90E-09	8.81E-07
Chloroform (Trichloromethane)	7.24E-05	7.24E-05	2.16E-07	2.16E-07	4.58E-08	1.02E-10	6.81E-08	1.26E-08	3.87E-08	3.86E-07	1.46E-04
Acenaphthene	6.61E-05	6.61E-05	2.39E-06	2.39E-06	6.93E-07	1.03E-10	8.83E-07	1.99E-07	5.02E-07	2.34E-06	1.42E-04
Acenaphthylene	3.23E-05	3.23E-05	2.00E-06	2.00E-06	6.15E-07	4.89E-11	7.81E-07	1.78E-07	4.44E-07	1.28E-06	7.19E-05
Fluorene	2.58E-05	2.58E-05	1.62E-06	1.62E-06	4.96E-07	3.89E-11	6.29E-07	1.44E-07	3.57E-07	1.14E-06	5.76E-05
Anthracene	3.11E-05	3.11E-05	2.42E-06	2.42E-06	7.57E-07	4.61E-11	9.55E-07	2.21E-07	5.43E-07	1.44E-06	7.10E-05
Phenanthrene	1.52E-05	1.52E-05	1.90E-06	1.90E-06	6.14E-07	2.09E-11	7.74E-07	1.80E-07	4.40E-07	7.34E-07	3.70E-05
Fluoranthene	4.43E-06	4.43E-06	9.96E-07	9.97E-07	3.35E-07	5.01E-12	4.20E-07	1.00E-07	2.39E-07	1.91E-07	1.21E-05
Pyrene	2.61E-06	2.62E-06	6.12E-07	6.12E-07	2.06E-07	2.90E-12	2.58E-07	6.15E-08	1.47E-07	1.12E-07	7.24E-06
Total	1.41E-01	1.41E-01	4.27E-04	4.27E-04	1.04E-04	2.25E-07	1.41E-04	2.90E-05	7.99E-05	6.78E-04	2.84E-01

Attachment 3

Request No. 21.d Information

Date	Biotreater Inlet Stream Sample Concentrations (mg/L), Excluding Ethylene Manufacturing Unit Downtime and Abnormal Conditions															
	Benzene	Phenol	Toluene	Ethylbenzene	Xylene	Styrene	Naphthalene	Chloroform (Trichloromethane)	Dibutylphthalate	Acenaphthene	Acenaphthylene	Fluorene	Anthracene	Phenanthrene	Fluoranthene	Pyrene
1/10/2023	1.2000	0.0260	0.9300	-	-	-	0.2700	-	-	0.0056	0.0019	0.0043	-	0.0043	-	0.0007
1/10/2023	0.3000	0.0065	0.2325	-	-	-	0.0675	-	-	0.0014	0.0005	0.0011	-	0.0011	-	0.0002
3/7/2023	-	-	0.0230	-	-	-	0.0003	-	0.0088	0.0009	0.0003	0.0006	-	0.0004	-	-
3/14/2023	1.0000	0.0390	-	-	-	-	0.0160	-	0.0160	0.0013	-	-	-	0.0010	-	-
6/5/2023	0.9600	0.0450	3.0000	-	-	-	0.1900	-	-	0.0068	-	0.0044	0.0004	0.0040	-	0.0007
6/12/2023	0.8400	0.0810	3.8000	-	-	0.7200	0.1500	-	-	0.0045	0.0028	0.0036	0.0004	0.0034	-	0.0007
6/20/2023	0.2900	0.0019	1.5000	-	-	-	0.1400	-	-	0.0024	0.0016	0.0021	-	0.0023	-	0.0005
6/27/2023	0.6700	-	1.6000	-	-	0.4800	0.0110	-	0.0150	-	-	-	-	-	-	-
7/4/2023	0.3200	0.0270	1.3000	0.1600	-	-	0.0850	-	0.0039	0.0016	0.0008	0.0012	-	0.0015	-	0.0003
7/11/2023	0.5300	0.0043	0.7800	0.0640	-	-	0.0006	-	-	0.0042	0.0036	0.0049	0.0007	0.0069	0.0006	0.0016
7/18/2023	0.1500	0.0016	0.8400	0.0880	-	-	0.0013	-	-	0.0056	0.0062	0.0062	0.0012	0.0097	0.0013	0.0025
7/25/2023	0.1000	-	0.6800	0.0730	0.0730	0.0970	-	-	-	-	-	-	-	-	-	-
8/1/2023	0.1400	0.0052	0.9400	0.1100	0.0960	0.1600	-	-	-	0.0025	0.0012	0.0024	-	0.0029	-	-
8/8/2023	0.0800	-	0.1500	-	-	0.0260	-	-	-	0.0022	0.0010	0.0020	-	0.0026	-	-
8/15/2023	0.1000	0.0057	0.3900	0.0045	-	0.0330	0.0012	-	-	0.0021	0.0015	0.0021	-	-	-	0.0007
8/22/2023	0.0750	-	0.3800	0.0610	0.0530	0.0660	0.0038	-	-	0.0015	-	0.0015	-	0.0015	-	-
8/29/2023	0.1400	0.0680	0.4800	0.0650	0.0570	0.0660	0.1400	-	-	0.0044	0.0028	0.0045	-	0.0044	-	-
9/5/2023	0.3500	0.0400	0.4400	0.0410	-	0.0600	0.2100	-	-	0.0060	0.0052	0.0058	-	0.0062	-	-
9/12/2023	0.0890	-	0.1600	0.0130	-	0.0150	-	-	-	0.0013	-	0.0011	-	0.0010	-	0.0008
9/19/2023	0.0670	-	0.2300	0.0760	0.0650	0.0430	0.0570	-	-	0.0030	0.0024	0.0029	-	0.0042	-	-
9/26/2023	0.1300	-	0.1900	0.0350	-	0.0280	0.0490	-	-	0.0023	0.0029	0.0028	-	0.0052	-	-
10/3/2023	0.2000	0.0029	0.2200	0.0320	-	-	0.0075	-	-	0.0020	0.0025	0.0021	0.0005	0.0037	0.0004	0.0008
12/27/2023	0.5700	-	0.4900	-	-	0.0650	0.1600	-	-	0.0110	0.0065	0.0110	-	0.0160	-	-
1/2/2024	1.6000	0.0320	0.7900	0.0500	-	0.0850	0.0690	-	-	0.0017	0.0015	0.0015	-	0.0023	-	0.0004
1/9/2024	0.5800	0.0039	0.3300	-	-	-	0.0510	-	0.0021	0.0016	0.0013	0.0015	-	0.0025	-	0.0005
1/16/2024	0.7200	0.0032	0.2300	-	-	-	0.0011	-	-	0.0005	0.0007	0.0005	-	0.0010	-	0.0004
1/23/2024	0.5200	0.0020	0.3700	-	-	-	0.0078	-	-	0.0006	0.0006	0.0006	-	0.0009	-	-
1/30/2024	0.4800	-	0.1650	-	-	-	0.0950	-	-	0.0064	0.0067	0.0073	-	0.0110	-	0.0032
2/6/2024	0.4000	-	0.2600	-	-	0.0290	0.0470	-	-	0.0037	0.0030	0.0037	-	0.0040	-	-
2/14/2024	2.3000	0.0340	0.9900	-	-	0.1300	0.1500	-	-	0.0130	0.0089	0.0120	-	0.0150	-	0.0029
2/20/2024	0.3500	0.0250	0.3400	-	-	-	0.1300	-	-	0.0120	0.0077	0.0098	-	0.0150	-	-
2/27/2024	0.3000	-	0.2500	-	-	-	0.0900	-	0.0180	0.0120	0.0079	0.0120	-	0.0200	-	0.0032
3/12/2024	0.5800	0.0042	0.7200	-	-	0.0680	0.0350	-	-	0.0035	0.0034	0.0038	0.0007	0.0060	0.0006	0.0012
3/19/2024	0.5400	-	0.7900	-	-	0.0630	-	-	-	0.0018	0.0011	0.0016	-	0.0014	-	-
3/26/2024	0.2000	-	0.2400	-	-	-	0.0510	-	-	0.0047	0.0057	0.0055	-	0.0095	-	-

The new Steam Stripper will treat wastewater before it is routed to the Biotreaters. The Steam Stripper is expected to achieve a hydrocarbon removal efficiency >98%. However, as indicated below, Shell conservatively estimated the Biotreater inlet stream hydrocarbon concentrations input into Toxchem on the basis that the Steam Stripper will achieve lower hydrocarbon removal efficiencies in order to estimate worst-case emissions from the Biotreaters and WWTP equipment downstream of the Biotreaters during normal operations.

Compound	Biotreater Inlet Stream Concentration Input into Toxchem (mg/L)	Comment
Benzene	0.35	For each of these hydrocarbons, the concentration was estimated by multiplying the average of the 1/10/23-3/31/24 Biotreater inlet stream sample concentrations (when excluding ethylene manufacturing unit downtime and abnormal condition concentrations) of the hydrocarbon by (1 - 0.7) to account for the new Steam Stripper achieving a 30% removal efficiency of the hydrocarbon.
Phenol	0.015	
Toluene	0.499	
Ethylbenzene	0.044	
Xylene	0.048	
Styrene	0.087	
Naphthalene	0.053	
Chloroform (Trichloromethane)	0.00012	The concentration was estimated by multiplying the minimum detection limit (MDL) of 0.0006 mg/L for the hydrocarbon (as none of the 1/10/23-3/31/24 Biotreater inlet stream samples indicated a concentration of the hydrocarbon above the MDL during normal conditions) by (1 - 0.2) to account for the new Steam Stripper achieving a 80% removal efficiency of the hydrocarbon.
Dibutylphthalate	0.01	Based on an evaluation of the 1/10/23-3/31/24 Biotreater inlet stream sample concentrations (when excluding ethylene manufacturing unit downtime and abnormal condition concentrations), the concentration of each of these hydrocarbons was conservatively set equal to 0.01 mg/L.
Acenaphthene	0.01	
Acenaphthylene	0.01	
Fluorene	0.01	
Anthracene	0.01	
Phenanthrene	0.01	
Fluoranthene	0.01	
Pyrene	0.01	